

VERMICOMPOSTING or LOVE YOUR WORMS!!!!



How to Begin Vermicomposting, & Building Your Own Worm Bins

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Many gardeners compost both yard waste and kitchen waste with compost piles, sheet composting or some other method during the growing season. Fortunately, very little yard waste is generated during winter months when cold temperatures make composting difficult. However, usable kitchen waste is constantly being generated and must be disposed of. Vermicomposting is the process of using worms and micro-organisms to turn kitchen waste into a black, earthy-smelling, nutrient-rich humus.

To get started you need the following:
Bins
Bedding
Water
Non fatty kitchen scraps

Worm boxes can be purchased or made. Plastic storage containers are convenient and come in a variety of sizes. These containers are easily transported and are a nice alternative to heavier wood bins. Many people choose to have several small bins as opposed to one heavier, large wood bin. Small bins work best in homes, apartments and school classrooms. They are easy to tuck under desks, place below kitchen sinks and keep out of the way in laundry rooms. There are many site on the web that give directions on how to build a worm bin. This an inexpensive way to get started

<http://whatcom.wsu.edu/ag/compost/easywormbin.htm>

Bedding:

The bedding for vermicomposting systems must be able to retain both moisture and air while providing a place for the worms to live. Bedding does not have to be purchased and most of us have plenty of bedding resources in our home, office or school. Here are some suitable sources of bedding.

**Shredded corrugated cardboard is an excellent bedding, but is difficult to find. You can do it yourself, but it is very labor intensive.

**Shredded paper like newspaper and computer paper is easy to find, but may dry out quicker than corrugated cardboard. There is not a problem with the ink from the paper. Discard any colored ads.

**Commercial worm bedding is available in sporting goods stores, but it is also more expensive. The amount of bedding depends on the size of the box. A 2-by-2 foot box will need between 4 and 6 pounds of dry bedding, a 2-by-3 foot box will take 9 to 14 pounds. No matter what the size, the bin should be 2/3 filled with "fluffed" prepared bedding (see below). For smaller bins, experiment--if you prepare excess bedding, it can be dried, stored and used another time.

Prepare the Bedding:

Water is needed to moisten the bedding. Place the dry, shredded bedding in a large container and add water until it covers the bedding. Allow the bedding to absorb as much water as possible before putting it in the worm bin. This could take from two to 24 hours, depending on the bedding used. Before putting the bedding in your bin, squeeze the water out from the bedding as much as possible. The bedding should feel like a well-wrung washcloth. Place the bedding in the bin and fluff.

Your bedding needs to remain moist. If it is drying out, mist the paper with water from a spray bottle and dampen the bedding again.

Worms, the Stars of the Show:

The worms used in vermicomposting are called redworms (*Eisenia foetida*), also know as red wigglers, manure worms, red hybrid or tiger worms.

- § You can order them through lawn and garden catalogs
- § You may be able to find them in a bait store
- § If you know someone who has an established supply, they may be willing to sell you some of their worms.

An example of a garden catalog source that sells red worms is Gardens Alive! (ph. 812-537-8650). There are many others. The internet is a good place to start looking. What About Nightcrawlers? Do not try to use nightcrawlers. These worms depend on cooler temperatures and an extensive tunneling system to survive and do not care for compost. They will die in your worm bin. How Many Worms Do I Need? The amount of worms needed will depend on the amount of kitchen waste generated per day. One pound of redworms will easily take care of each half-pound of garbage. To add worms to the bin, simply scatter them over the top. The skin on the worm reacts to light and they will immediately work their way down into the bedding to get away from the light.

Kitchen Waste:

The kitchen waste fed to worms can come from a variety of sources, including all vegetable and fruit waste (don't be surprised that some seeds may

germinate and potato peels with eyes sprout), pasta leftovers, coffee grounds (with filter) and tea bags. Worms may have a problem with garlic and onion skins. Worms have a gizzard like chickens so fine grit should be added to help the worms digest food. This gritty material includes cornmeal, coffee grounds and/or finely crushed egg shells (dry the shells and then crush). Avoid large amounts of fat, meat scraps or bone.

Adding Kitchen Scraps:

First, and foremost, START SLOWLY. It will take time for bacteria to form and your bin can quickly become very smelly if you add too much food, too fast. In the beginning, add a very small amount of gritty material (see above) and a small amount of vegetable matter. Don't worry about the worms starving because they will be eating bedding as well. You can gradually increase the amount of food as the bin becomes established.

The easiest method is to spread the scraps in a thin layer on top of the bedding. If the bin is kept in a dark place or covered, the worms will come to the surface to eat. You can also pull back a small amount of bedding in the bin and dump in the scraps. Cover the scraps with an inch of bedding. Start at one corner of the bin and bury garbage in a pattern to fill in all the spaces. By the time you get back to the first burying spot, the worms will have composted most of the waste.

If you notice odors, cut back on the amount of food or try chopping the food up into smaller pieces. Note: citrus does have a strong odor and the peelings seem to last a long time in the bin. Bins seem to be more manageable when there is less fruit and citrus and more of the leafy vegetables.

Harvesting the Compost:

Given the right environment, the worms will go to work to digest the kitchen scraps and bedding faster than any other compost method. The material will pass through the worms' bodies and become "castings." In about 3-4 months, the worms will have digested nearly all the garbage and bedding and the

bin will be filled with a rich, black natural fertilizer and soil amendment. Compared to ordinary soil, the worm castings contain five times more nitrogen, seven times more phosphorus and 11 times more potassium. They are rich in humic acids and improve the structure of the soil.

To keep your bin going, you will need to remove the castings from time to time and there are several ways to go about it. One way to do this is to shine a bright light into the bin. The worms are sensitive to light and will move to the lower layers of the bin. Remove the top layer of casting by using your hands or a sieve. Each time you remove some bedding, the worms will be exposed to the light and they will keep migrating down to the bottom of the bin. Pick out any wigglers or worm eggs (small, opaque cocoons) and return them to the bin. Refill the bin with fresh layers of moist bedding and food.

Another method of harvesting composts is to push the black, decomposed material to one side of the bin, and fill the other side with new, moist bedding and kitchen scraps. Then wait several days. The worms will migrate to the freshly filled side of the bin and you can just scoop out the finished compost. Make sure you pick out any wigglers or worm eggs and return them to the bin.

 Try the "onion bag" method to harvest your worms. Visit the [City Farmer Web site](http://www.cityfarmer.org/wormharv80.html) at <http://www.cityfarmer.org/wormharv80.html>

Using the Compost:

For potted plants, add a thin layer to the top of the potting soil. You can also add the compost directly into your soil mix when repotting. In the garden, simply work it into the ground around the base of each plant. The compost is very mild and you won't have to worry about accidental burning or over fertilizing.

Some Don't's :

**Don't use insecticides around your worm bin. You'll not only take care of a few pests, but also your worms.

**Don't use garden soil as bedding for the worms.

**Don't mix fresh cow, horse and especially chicken manure into your bedding. These manures will heat up the bedding and literally cook your worms.