



Easy DIY Worm Bin!

Composting with red worms (also known as Red Wigglers) is great for apartment dwellers who don't have yard space, or for those who don't want to hike to a backyard compost bin with their food scraps. Some kids even like to keep worms for pets! By letting worms eat your kitchen fruit and vegetable scraps, you'll end up with one of the best soil amendments available—worm castings. The following worm bin is one of the cheapest and easiest to manage worm bin systems that I've seen:

Materials Needed to Make an Easy Harvester Worm Bin:

- One 10-18 gallon plastic storage box (dark, not see through!) as shown in pictures. Cost: about \$10 to \$20 each
- Cordless drill with 1/4" and 1/16" bits for making drainage and ventilation holes
- Shredded paper such as newsprint, plain copier paper or finely torn cardboard (do not use glossy newspaper inserts). You will need approximately 4 to 6 gallons of shredded material
- 1 quart of veggie or fruit scraps, chopped into 1" pieces or smaller. This can include **used** coffee grounds, but no citrus, dairy, fats or meat.
- About 200 to 500 red worms (Red Wigglers - *Eisenia fetida*)



Step 1

Drill about twenty evenly spaced 1/4 inch holes in the bottom of each bin. These holes will provide drainage and allow the worms to crawl into a second bin if you decide to expand your installation.

Step 2

Drill ventilation holes about 1 - 1 1/2 inches apart on each side of the bin near the top edge using the 1/16 inch bit. Add a second row of holes if you wish.



Step 3

Prepare bedding for the worms by shredding newspaper into 1 inch strips.

Worms need bedding that is moist but not soggy. Moisten the newspaper by soaking it in water and then squeezing out the excess. Cover the bottom of the bin with 3-4 inches of moist newspaper, fluffed up. If you have any old leaves or leaf litter, that can be added, too. Throw in a handful of garden soil for "grit" to help the worms digest their food.



Step 4

Add your worms to the bedding. One way to gather red worms is to put out a large piece of wet cardboard on your lawn or garden at night. The red worms live in the top 3 inches of organic material, and like to come up and feast on the wet cardboard! Lift up the cardboard to get them. You can also purchase worms online from a reputable supplier. Be sure to order composting worms and not earthworms. A composting worm can consume about 1/2 of its weight each day. For example, if your food waste averages 1/2 lb. per day, you will need 1 lb. of worms or a 2:1 ratio. There are roughly 1000 worms in one pound. If you start out with less than one pound, don't worry - they multiply very quickly! Just adjust the amount that you feed to your worm population. Feed weekly.



Step 5

Cut a piece of cardboard to fit over the bedding and get it wet. Then, cover the bedding with the cardboard (worms love cardboard, and it breaks down within months). This cardboard will serve as the lid for your bin (keep extra on hand so you can replace it as needed). You can also use a second lid with 1/16" holes for a cover, if desired.





Step 6

Place your bin in a well-ventilated area such as a laundry room, garage, balcony, under the kitchen sink, or outside in the shade. Worms do best in temperatures ranging from 40 to 80 degrees. Place the bin on top of blocks or bricks or upside down plastic containers to allow for drainage. You can use the lid that comes with the bin as a tray to catch any

moisture that may drain from the bin. This moisture is called leachate and should not be confused with worm tea. If your leachate smells ok, you can dilute it 10:1 (water/leachate) and use it around plants. However, if it smells bad or ammonia-like, **DO NOT USE** as it could be toxic to your plants. **And never use it on edible plants due to the risk of pathogen contamination.**

Step 7

Feed your worms slowly at first. As the worms multiply, you can begin to add more food. Gently bury the food in a different section on one end of the bin each week, under the lid. The worms will follow the food scraps around the bin. Burying the food scraps will help to keep fruit flies away. What do worms like to eat? Feed your worms a vegetarian diet. Most things that would normally go down the garbage disposal can go into your worm bin (see the list below). You will notice that some foods will be eaten faster than others. Worms have their preferences just like us.

Feeding your worms:

Worms LOVE	Worms HATE
Fruit & Veggie scraps USED coffee grounds/filter used tea bags plain cereal, pasta, bread or rice (small amounts only)	Citrus Dairy, oils, fats, dressings Meat Animal feces

When the bedding on the first end has mostly disappeared, you'll be ready to start the harvesting process. To begin that process, start feeding on the other end of the bin. After a few weeks, the worms will mostly follow the food to the other side and leave the first side available for you to harvest your worm castings! Remove the castings, picking out any worms and returning them to the bin. Now your castings are ready to use. Add them to your planting holes, or sprinkle around plants and work into the soil - your plants will thank you!

If you use a second bin

When the first bin is full and there are no recognizable food scraps, place new bedding material in the second bin and place the bin directly on the compost surface of the first bin. Bury your food scraps in the bedding of the second bin and feed in the second bin only. In one to two months, most of the worms will have moved to the second bin in search of food. Now the first bin will contain (almost) worm-free vermicompost (you can gently lift out any worms that might remain and place them in the new bin).

Troubleshooting

Problem	Probable Cause	Solution
Worms are trying to escape or dying Worms have lumps along body and are dying	Too wet Too dry Bedding is used up Too much starchy foods	Add more bedding Moisten bedding Harvest your bin Stop feeding starchy foods
Bin Stinks!	Not enough air Too much food Too wet	Drill more ventilation holes Do not feed for 1-2 weeks Add more bedding
Fruit Flies	Exposed food	Bury food in bedding