



**Pike County Solid Waste District  
and the Pike County General Health District**

# Vermicomposting Fact Sheet

## What is Vermicomposting?

Vermicomposting is defined as the use of worms to convert organic matter into hummus (compost). The organic matter converted in the process of vermicomposting is typically limited to household food wastes. Worms are extraordinary creatures that can consume their weight in food and soil every day. They leave behind castings rich in nutrients such as nitrogen, phosphorus, and potassium (NPK). These castings are a perfect amendment to gardens, houseplants, and lawns.



A handful of Red Wigglers

## What kind of worms do I use?

Vermicomposting employs a specific kind of worm, commonly known as the red wiggler (*Eisenia foetida*). These are not the earthworms that you see drying themselves out after a hard rain. They thrive in temperatures ranging from 55 to 77 degrees Fahrenheit. When provided with adequate food, one pound of red wigglers (1,000 worms) will digest one half to one pound of kitchen scraps per day. After a few weeks of getting settled the worms will mate, lay eggs, and begin to multiply; thus providing a generous supply of worms to expand operations or to share with others.

We purchase our red wigglers online and have them shipped to us. However, you may be able to find them locally as well.

### Good Worm Food

Vegetable and Fruit Scraps, Coffee Grounds, Tea Bags, Egg Shells, Untreated Yard Waste

### Food to Avoid

Citrus Fruits, Garlic, Onions, Meat, Bones, Oils, Dairy

## Where will my worms live?

Vermicomposting typically takes place in some variation of a worm bin. Whether purchased or constructed every bin must have a bed of carbon-rich material (shredded newspaper), nitrogen-rich material (food scraps), and a small quantity of soil. There is little to no smell associated with a well fed worm bin, so they are perfect to keep indoors. In fact, if you choose to place your bin outside, it must be protected from the extreme heat and cold associated with southern Ohio weather. We have been using a commercial worm bin called The Worm Chalet. This particular model has three trays that allow the worms to eat their way upward towards new bedding, thus leaving their castings below. It also has a spout that allows for the collection of compost liquid. The liquid leachate of the compost is excellent for feeding plants when sufficiently diluted. Although there are many different styles of worm bins available commercially, it is also simple to construct one out of common household items. Turn the page and find out how to make one of your very own.



The Worm Chalet

# Worm Bin Construction

To construct your worm bin you will need the following supplies:

- 2 (or 3) 10 gallon Rubbermaid storage bins (or similar opaque bin)
- 1 fitted lid
- shredded newspaper, peat moss, or coconut coir for bedding
- small amount of organic soil
- electric drill
- 1/2 inch drill bit



Drill 1/2 inch holes into the bottom and sides of the top of one bin. This will allow for excess moisture to escape and provide a sufficient amount of air for the worms. This will be the bin in which you will place the bedding, worms, and food scraps. Once you have drilled holes into this bin, place it inside of the second bin. The second bin (without holes) will be used to collect the leachate, loose bedding, and escapee worms from the top bin. Using the combination of bins will keep the whole operation relatively mess-free.

Now that you have constructed your bin, you are ready to add the bedding. No matter what material or combination of materials you choose for the bedding, it must be non-toxic, fluffy enough to allow air to circulate, and able to retain a certain amount of moisture. Shredded newspaper, shredded office paper, peat moss, coconut coir, and dry leaves are all good bedding materials. You will want to prepare enough bedding to fill the bin about one-half to three-quarters full. You can place the bedding in the bin and then slowly add water. Dipping the bedding in a bucket of water, squeezing out the excess water, and then placing it in the bin works even better. In the end, the bedding should have the consistency of a wrung out sponge. Once you have a sufficient layer of bedding you need to add a couple of handfuls of organic soil to the bin. The worms will use the soil to “chew” up their food. It is now time to add the worms. One pound of red wigglers should be sufficient to start a bin this size. After you have added the worms, snap the lid on and let them become accustomed to their new home. The following day you can begin adding food.



The worms should be fed about once or twice a week. You can collect scraps in a bowl in the fridge in between feedings. The worms like to have the scraps chopped into small pieces. You can do this with a knife and cutting board or by tossing them into a food processor, if you have one available. Bury the food in the bedding in several different spots throughout the bin, replace the lid, and then let the worms do the work. If you feed them well, the bin should be ready to harvest in about three to six months. The easiest method is to add a new bin (complete with the appropriate holes, bedding, and food) flush on top of the finished bin. In time, the worms will migrate through the holes in the bottom to the new bin and you can then harvest the finished compost. Add it to your garden, houseplants, or lawn and enjoy!

Thanks to Mary Appelhof, author of *Worms Eat My Garbage* and Kelly Grube at The Rodale Institute each for their technical expertise

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