

## How to build your own Vermicomposting bin

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The first question that many of you likely have is what in the world does the word vermicomposting even mean? In the programs that our office offers on this topic, many students and adults alike turn their heads when they see this word appear. Vermicomposting is a unique concept that is gaining popularity as people are looking to ways they can be better stewards of the environment and our natural resources. In this article, we will look at what vermicomposting means, how it works, how you can get started, and the benefits of composting.

Let us first start with what the word vermicomposting means. Vermin is the Latin name for worms while composting means breaking down organic materials such as fruits, vegetables, leaves, and grass clippings to recycle the nutrients from these materials. Vermicomposting uses worms to help break down these organic materials recycle the nutrients from them to create a valuable fertilizer than can be used on our plants and in your gardens. This practice involves the use of red worms as they are the most productive when it comes to compost production.

When talking about vermicomposting, it certainly helps to talk a little about the worms themselves. Red worms live in the first few inches of the soil where there is plenty of moisture and organic matter to break down. Worms belong to a group of organisms known as decomposers whose job it is to take dead and decaying organic material, recycle the nutrients from these materials, and allow for a continuous supply of nutrients to sustain an ecosystem with a healthy, fertilized soil. Worms will eat a variety of materials such as carrots, potatoes, tomatoes, pumpkins, apple cores, banana peels. They like a moist environment because they get the oxygen they need to survive by obtaining it from water soaking it up through their skin, but they do not like too much water as it can cause them to drown.

Vermicomposting bins are quite simple to assemble in little time either indoors or outdoors. The following supplies will be needed to make a bin indoors: two storage totes 12-15 gallon sized, four 4-inch high wooden blocks, ¼-inch drill bit to make holes, shredded paper, and of course worms! Worms can be ordered online from a variety of outlets at a price between \$20-\$30 for about 1,000 red composting worms and \$30-45 for 2,000 worms. The US EPA recommends ordering 1,000 red worms or 1 pound, as these are the most productive with the consumption of waste and production of compost. One storage tote will house the worms while the second bin will be used to catch water that drains out of the first bin. The top bin will need a lid to keep the worms in the bin, yet it needs to be flexible enough to drill a few holes for air to circulate through the bin.

Take the wooden blocks and place them at the bottom of one of the bins. With the other bin, use the ¼-inch drill bit to drill holes at the bottom, which will allow water to drain through the bottom. Once the holes are drilled in the bottom, place this bin on top of the wooden blocks. Next, run copy paper through a shredder and then place a layer of paper at the bottom of your top bin, about two or three handfuls will be sufficient. Water

down this layer of paper, because worms like a wet environment so they can get their oxygen. After the paper has been moistened, place a handful of soil in the bin. Now you are ready for some worms! You can then unpack the worms that you ordered and place them on top of the soil and shredded paper.

Once the worms are in their new home, place about two handfuls of shredded paper on top of the worms and wet down this layer of paper as well. Place an additional layer of shredded paper on top of the moistened layer, but leave this paper dry. The dry layer of paper essentially creates a barrier that helps to keep the worm inside of the bin because they cannot survive under dry conditions. Drill a few 1/4-inch holes on your lid and then place it on your bin, but you are not exactly done yet! Lastly, you need to feed your worms! Take a banana peel or apple core you may have and bury it in the bin by the worms.

Do you have some coffee grounds left in your coffee maker from your morning coffee or eggshells leftover from your breakfast? Do not throw those away, but feed them to your newly established worm farm! Eggshells are best fed to worms when they are crushed up into smaller pieces. From here, make sure to keep the worms fed at least once or twice a week to sustain the worms and the production of compost. The US EPA recommends doing a few maintenance tasks each week such as adding shredded paper in small handfuls and adding some water (enough to wet the paper and compost). Every few months, you can harvest your compost to which the trick with this comes with preparation. For example, if you want to clean out the left side of the bin, place food scraps on the right side of the bin a few weeks ahead of time to attract the worms to this side, which will allow you to clean out the bin and vice versa if you want to clean the right side.

Should you have any questions on how to get your vermicomposting bin started, contact the Paulding Soil & Water Conservation District today at 419-399-4771! We have a composting bin at our office you may look at to get some ideas!