

# Worm Composting - (Vermiculture)

"Hundreds. and thousands  
Of worms thrash about.  
Through pits, stems and rinds,  
They weave in and out.

While wreathing and wriggling,  
On food scraps they dines.  
Now waste turned to gold  
Has come out their behind."

Worms provide a simple yet effective means to convert organic wastes into a nutrient rich material capable of supporting plant growth. What makes worm castings better than regular compost is that the worm's digestive system excrete beneficial microorganisms that you won't find in other compost. The worms create the castings after slurping their way through rotting food that would normally be thrown into an outdoor compost heap. They do so *odorlessly, and silently!* Using the worms will probably not replace your large outdoor compost pile, but they are good for making some high quality compost for specific purposes.

## **The Container:**

Worms don't like light so use a plastic or wooden bin. A plastic 5 or 10 gallon tub with a lid works fine for processing the waste of two adults. Surface area is more important than depth. Punch or drill 1/8" to 1/4" holes about 1" apart all the way around the top part of all four sides of the bin. Drainage holes in the bottom and a catch tray below keep the bedding from getting too wet. Proper ventilation will keep your worms happy and healthy. Plan on one cubic foot of surface area for each pound of garbage per week. One cubic foot of space is needed for each pound of worms.

## **Bedding:**

Suggested bedding material: Shredded newspaper, leaves, composted manure, peat moss, soil or wood chips.

Fill your bin to a depth of at least 4 inches of moistened bedding material. Add one cup of soil per square foot of bedding to aid worm digestion. Bedding should be sprinkled with water. It must be moist but not soggy. Worms also need some grit like ground egg shells or sand because they have no teeth. Once your bin gets started, the castings will provide grit so you don't need to add more unless you clean out your bin and start over.

## **The Worms:**

The best composting worms are "red wigglers" (*Eisenia fetida*) available from bait shops or worm farms. You need about one pound of worms for each pound of kitchen waste you want to process each week.

1. Part the bedding and add the worms and food scraps. Cover and wait. When you see that all the food you gave the worms is gone, it is time to feed them again.  
Bury kitchen waste (vegetable and food scraps) just below the surface of the bedding. Add food regularly rather than in large quantities.

## **Worms, Continued**

The bin should not have an odor. Worms eat quickly and efficiently, so the food should not have time to rot. If your worm bin smells bad, you may be over-feeding them. Don't worry if you get a few insects or other critters; it's all a part of a healthy composting environment.

Frequent checking during the first few weeks will help you determine the appetite and composting capacity of your worms. Then you can establish a feeding schedule that is right for your bin.

2. The worms will be happiest in constant temperatures of about 65-75 degrees but can tolerate temperatures as low as 50 degrees or as high as 80 degrees. Higher or lower temperatures slow down the composting process. Worms may die in temperatures lower than 50 degrees. It is best to keep the worm bin away from high traffic areas. They don't like loud noise, abrupt movements or vibrations.

### **Harvesting:**

After about 3 months, the worms will have converted the entire contents of the bin into rich worm castings. There are two methods of harvesting the castings from the bin, The worms don't like light, so you can dump the entire contents of the bin onto some newspaper. The worms soon wriggle to the center of the pile. You begin by removing outer layers of compost. Another method is to shove the bin contents all to one side and add new bedding and food to the other side. Eventually, all the worms will migrate to the new food. Once you have separated out the compost, put the worms back in the bin in fresh bedding and start the process all over again.

### **Using Compost:**

Worm castings are a natural plant food and soil conditioner for gardens, lawns and house plants. Worm castings will stimulate healthy plant growth and help suppress plant disease.

*Perennials* - Work ½ c. into the soil at the base of the plant

*Roses* - Incorporate 1-2 c. into the soil at the base of the plant

*Annuals and Vegetables* - Add ¼ c. to the planting hole for transplants or seeds

*Potted Plants* - Apply 1 T. for each 2-3 inches of pot diameter, water well.

*Potting Soil* - Mix 1 part castings to 3 parts potting soil

*Castings 'Tea'* - Use ¼ c. for every 2 quarts of water. Soak overnight, stir, then water as usual.

*Foliar feed* - Make Tea as above, and spray on leaf surfaces.

The worms will multiply quickly (healthy worms double their population every 90 days), so after a while, you can assemble an additional bin for yourself or a friend. That way, you are helping others integrate their pattern of consumption into a natural cycle of growth and decay.

Worms are fun and they are an excellent way to help children become environmentally aware. They are a fascinating addition to any school's science/environment curriculum.

Happy Vermicomposting!

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