

# COMPOSTING

## Vermicomposting Composting with Worms

*Vermicomposting, or worm composting, is the decomposing of organic waste with red worms. Since it can be done indoors, it can be an option for offices, apartment dwellers, schools, people with disabilities and anyone else who may not have regular access to an outdoor composter.*

While this method of composting requires more attention than an outdoor composter, there is no heavy physical work involved. Vermicomposters can produce high quality "castings" made by the worms, which are an excellent soil additive and plant fertilizer.

By providing the necessities of life for your worms, a vermicomposter can function smoothly for many years, quietly transforming your kitchen scraps into another form of "black gold."



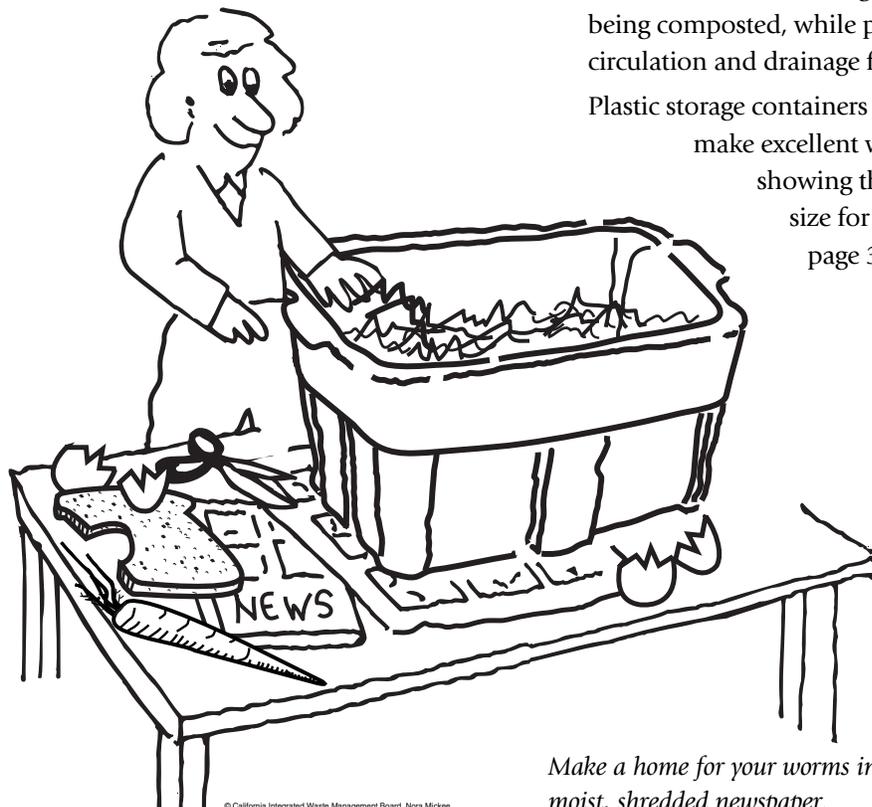
### Making a Home for your Worms

#### ■ THE BIN

Worm bins can work effectively in many shapes and sizes. They need to be large enough to hold the worms, their bedding material and the food being composted, while providing air circulation and drainage for excess moisture.

Plastic storage containers with tight-fitting lids make excellent worm bins. A table showing the recommended bin size for your household is on page 3.

*Continued on next page*



*Make a home for your worms in a plastic bin filled with moist, shredded newspaper.*

Peterborough Green-Up  
(705) 745-3238

City of Peterborough  
Waste Management  
(705) 742-7777 ext 1657

County of Peterborough  
Environmental Services  
(705) 743-0380  
1-800-710-9586

### ■ DRAINAGE

Drill holes in the bottom of the bin to allow excess water to escape. Fasten some window screening over the holes with duct tape to stop worms and bedding from falling through. Keep the bin on a boot tray, or a plastic sheet covered with newspapers to catch any liquid that drains out.

### ■ VENTILATION

To ensure good ventilation, drill holes in the lid of the bin. Fasten screening with duct tape on the inside of the lid to cover these holes.

### ■ LIGHT

Red worms are sensitive to light. They need an opaque bin with a lid.

### ■ BEDDING

Worms need not only food scraps, but a coarse "bedding material" to eat with the food scraps to produce worm castings. You can use shredded newspaper, shredded cardboard, soil or a little peat moss as a bedding material. Avoid bleached white paper as worms seem to avoid it, especially when the bin is being newly established. Initially the bedding should fill about two thirds of your bin.

### ■ MOISTURE

Keep the bedding about as moist as a wrung-out sponge.

### ■ ACIDITY

Red worms prefer a bedding that is slightly acidic. However, if the bedding is mostly peat moss, or the materials in it are very acidic, add a few dry, crushed egg shells to make the bedding more neutral. One tablespoon every week or two should be enough.

## Finding Your Worms

Red worms (also known as red wigglers, trout worms, manure worms or tiger worms) are not usually available at most bait stores, but need to be purchased from special suppliers. Other types of worms are not nearly as efficient as red worms in transforming food scraps rapidly into compost.



You can order directly from the suppliers listed on the back page, or through Peterborough Green-Up. Several times each year, Peterborough Green-Up offers vermicomposting workshops, and orders worms in bulk at a reasonable price.

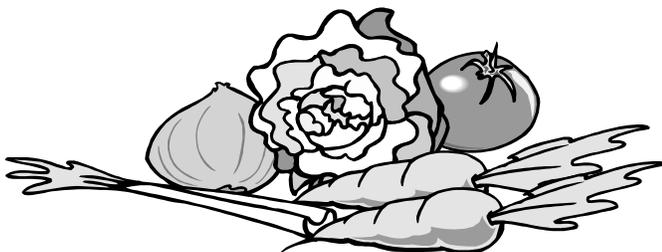
If you know someone who is already vermicomposting, they may be able to give you a handful to get you started. Red wigglers reproduce quickly; just watch that you don't overfeed them over the first few months until their population grows.

## Feeding Your Worms

Your worms will eat almost anything that humans eat. However, they should not be fed meat, fat, bones, dairy products or oils. These items may cause unwanted odours. Some worms also seem to avoid potato peelings, so don't add too many of those until you're sure your worms will consume them.

Feed your worms once or twice a week. Bury the food scraps at least one inch below the surface of the bedding and leave for the worms to eat. Many people like to use one or two plastic mesh onion bags for holding the fresh food in the bin. This makes it easier to keep all the food well buried - a critical factor in preventing fruit flies from breeding in your bin. Add more bedding as needed to ensure that food can be kept buried.

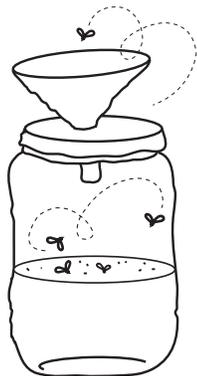
Small pieces of food waste will be consumed in a week or two. Food scraps can be chopped up to speed the process of decomposing.



## Troubleshooting

Make sure that your bin becomes neither too wet nor too dry. In either case, the worms will frantically try to escape. A lid full of unhappy worms is a sign that living conditions are not suitable. If the bin is too wet (this sometimes happens, even with drainage holes in the bottom), add some strips of dry newspaper to the bin to help absorb the excess water. At the other extreme, if the bin dries out too much, add a little water or freshly wetted bedding. Worms will die if their skins dry out.

Another common problem is having fruit flies breed in the bin. Fruit fly eggs are often found on fruit skins you add to your bin. Be sure to keep all food scraps well buried in bedding to prevent this problem. If you happen to find annoying fruit flies gathering in your home, the problem can be quickly solved with home-made fruit fly traps.



*A homemade trap will quickly get rid of any fruit fly problems that arise.*

Half fill a medium-size jar with fruit juice (apple juice works well), and insert a plastic funnel in the top of the jar. Fasten the edges of the funnel to the jar with duct tape. Fruit flies will be attracted to the fruit juice and fly into the funnel. Once in the jar, they can't escape and will drown in the fruit juice. These traps will usually solve a fruit fly problem within a day or two, as long as you eliminate their original breeding place (uncovered food in the vermicomposter).

## Harvesting the Bin

Over a period of three to six months the red worms will convert the food wastes and their bedding into a mass of rich, dark castings. When the volume of their bedding has decreased, it becomes noticeably darker. Once there are several inches of castings in the bottom of the bin, it is time to change, or "harvest" the bin. Worms will eventually not thrive in an environment too full of their own wastes.

The simplest method of harvesting the bin is to prepare a sheet of plastic on the floor (several times the width of the bin). Remove the mesh bags full of food, and place them at the edge of the plastic sheet (there will probably be lots of worms in the bags). Then tip the entire contents of the bin onto the plastic sheet and shine a bright light directly over the pile. Since worms do not like light, they will begin to move towards the centre of the pile. After fifteen or twenty minutes, skim a layer of compost from the outside of the pile, and put it in a storage container. Continue this process intermittently for a few hours (while you're doing other household chores, for example) and you will gradually collect a container of finished compost, and a large pile of worms on the plastic sheet. If you happen to notice tiny translucent yellow balls in the castings, these are worm cases (a worm version of an egg). Several young worms will emerge from each case, so put these in the pile with the worms to return to the bin, if you happen to notice any.

When you have removed most of the castings, put some fresh bedding in the bin, add the bags of food and the pile of worms back into the bin. Now you're ready to continue the process with a healthy colony of worms.

Children love to help with the process of harvesting the worm bin. If you have children available to help out, it can be quite a delightful task. Children love to look for the baby worms, the adults, and the cases (eggs).

### How big a bin do you need?

Number of people	Quantity of worms	Bin Size
1 or 2	1 pound	1' x 1.5' x 2'
2 or 3	1 pound	1' x 2' x 2'
4 to 6	2 or 3 pounds	1' x 2' x 3.5'

## Using the Compost

Worm compost can be worked into the garden, and will benefit the growth of any plants. You can also use the finished compost to sprinkle on the soil of your houseplants, to give them an extra treat. Water the plants as usual. Worm compost can also be an excellent additive to the soil you use for starting seedlings indoors. Young vegetable or flower seedlings will thrive in soil that contains this rich natural material.

## Questions?

Green-Up staff are happy to help with any compost questions or problems you may have. Call the Green-Up office at 745-3238 or visit the Ecology Park on Ashburnham Drive in Peterborough (during the growing season). Staff at the City of Peterborough Waste Management Office or the County of Peterborough Environmental Services, will also be glad to help with composting questions.

## LOCAL WORKSHOPS

Peterborough Green-Up

(705) 745-3238

Peterborough Green-Up offer vermicomposting workshops for beginners several times each year. These sessions include a low-cost bin, worms, bedding and all the information you need to get started.

## ONTARIO VERMICOMPOSTING SUPPLIERS

Several times each year, Peterborough Green-Up orders worms in bulk at a reasonable price. You can order directly from the supplier listed below or through Peterborough Green-Up.

**The Worm Factory**, Lorie Watt

RR#1 Balderson, ON K0G 1A0

(613) 267-5540

Fax (613) 264-8227

wormfact@perth.igs.net

www.thewormfactory.net

### FACT SHEETS IN THIS SERIES

- Composting: The Basics
- Preventing Odours in your Composter
- Composting Solutions / What to Compost
- Composting through the Seasons
- Pest-proofing your Compost Bin
- Using Compost in your Yard
- Vermicomposting



**CITY OF PETERBOROUGH**  
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