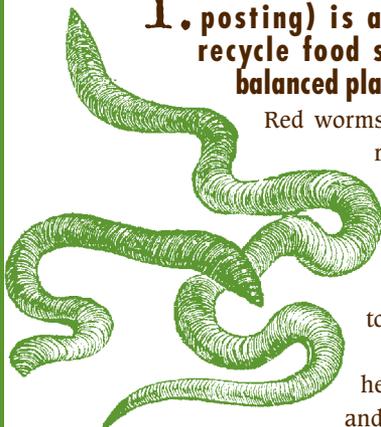


# Food scraps composting

## **I. VERICOMPOSTING (red worm composting) is a clean, simple way to recycle food scraps into a complete, balanced plant food.**



Red worms (*Eisenia fetida*), also called red wigglers, thrive on organic materials like food scraps.

- Nightcrawlers will not work in a worm bin because they require deep, cool soils to thrive.

- Red worm composting helps reduce household garbage and the need for a garbage disposal,

which burdens septic systems and municipal sewage treatment plants.

- Most bins should be started with at least one pound of red worms (1,200-2,000 worms), which can be obtained by contacting a Master Composter/Recycler at (360) 882-4567 for a list of worm sources.

*Red worms are amazing, clean and odor free!*

### **How to start a bin**

Inside the bin you should create an environment in which the red worms can thrive.

- Ideally, the bin you choose should have one and one-half square feet of surface area per member of your household. For example, a 1'x 2'x 3' box (see diagram) has six square feet of surface area and should easily manage the food scraps of a family of four.

- The bin should be made of sturdy, opaque plastic or wood with a lid to keep pets out and to help keep the bin moist and dark. It should be no deeper than 24 inches to ensure the bedding at the bottom does not become compacted.

- Red worms breathe oxygen through their skins, so the bin should have several air holes for good ventilation.

- The bin will need bedding to provide the worms with a damp, aerated environment. Common bedding materials are fallen leaves, computer paper, newspaper, and shredded corrugated cardboard. The paper and cardboard should be torn into one-inch strips or machine shredded and thoroughly moistened. The worms will eat this bedding material as well as the food waste. Burying food waste in the bedding or covering each addition of food waste with



a thin layer of bedding helps to prevent fruit flies from becoming a problem.

## Four easy steps to worm composting

1. Build your bin the size needed to manage your household's output of food scraps.
2. Fill the bin with damp bedding.
3. Begin with enough worms to consume your household's output of food scraps. Ideally, the bin should have one pound of red worms per square foot of surface area. You can begin your bin with fewer worms but keep in mind that it will take the worms time to increase their population to the point they can manage all of your household's food scrap output.
4. Bury your food waste in the bedding.

## Do's and don'ts of worm feeding

- Do....feed your worm bin vegetable scraps, bread crusts, fruit rinds and peels, coffee grounds and filters and tea bags.
- Don't....feed your worm bin meat, fish, dairy foods, oily foods or bones. They will smell before the worms can eat them.

## The harvest

When the worm system has consumed all of the food and bedding in the bin, what remains is a dark, crumbly, soil-like product called vermicompost. To move the worms out of the vermicompost, lay a piece of window screen six inches larger than the opening to your worm bin directly on top of the vermicompost in the bin and refill the bin with damp bedding laid on top of the screen. Begin burying your food scraps in this new bedding. The small, young worms will quickly migrate through the screen to the bedding and food on top and the older, larger worms

will remain in the bottom finishing off any food that might remain in the vermicompost. When they've eaten everything available they too will migrate through the screen. When the material on top of the screen is converted to vermicompost lift out the screen, carrying the new vermicompost with it, and set it aside. Nearly all of the worms will be in this material. Dump out the old vermicompost from the bottom of the bin and put the new vermicompost containing the worms into the now empty worm bin. Lay the screen on top of this worm rich vermicompost, refill the bin with damp bedding laid on top of the screen and begin burying food scraps into the new bedding.

## Troubleshooting your worm bin

Worm bins are generally trouble free when well managed. The most common problem encountered is with fruit flies. In outdoor bins fruit flies are not a problem and can be ignored. For indoor bins there are steps you can take to ensure that they do not become a nuisance.

- **Fruit flies can be avoided** by solidly freezing food scraps or microwaving them for three minutes before adding them to the worm bin. Most fruit flies enter the system as eggs or larvae on the peels of fruits and vegetables and pre-treating the food scraps in this way kills them.
- **Make sure all food scraps are buried** in the bedding or covered by bedding material.
- **Odors in a worm bin** result from too many food scraps being added to the bin, too much moisture, or the presence of meat or dairy products. Removing excess or undesirable food scraps or adding fresh bedding to absorb excess moisture will

control the problem.

- Or call a Master Composter/Recycler at (360) 882-4567.

## **2. TRENCH OR POST HOLE COMPOSTING** are methods that involve burying food scraps directly into the soil.

Because food scraps can potentially attract pests, it is recommended they not be used in an open yard debris pile. Because many people do not want to try vermicomposting, we suggest that food scraps be buried directly in the soil of your garden or around trees and shrubs. This composting method is acceptable for meat, dairy products and oily foods unlike more traditional composting methods.

- Using a post hole digger, dig a hole deep enough that food scraps can be dropped in and covered with at least 12 inches of packed soil.
- Dig an 18-inch deep trench along a row in the garden and spread food scraps in the bottom. Cover with at least 12 inches of packed soil.

### **More information**

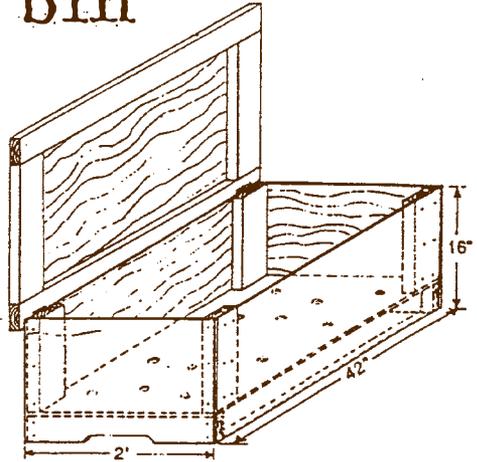
Call the Master Composter/Recycler program at (360) 882-4567.

Resources available:

- Redworm source list.
- Worm bin source list.
- Worm bin workshops.
- *Worms Eat My Garbage* by Mary Appelhof (an excellent source of information on redworm composting).
- Volunteers to give composting workshops and lectures to local community and education groups.
- General composting support.

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# Worm composting bin



This bin can be built for about \$50 with new wood and hardware, or less using recycled materials. Worm bins can also be made from wooden boxes or other containers. Any worm bin must have drainage in the bottom and a tight fitting lid to keep moisture in and pests out. A starter batch of worms can be purchased at a small additional cost.

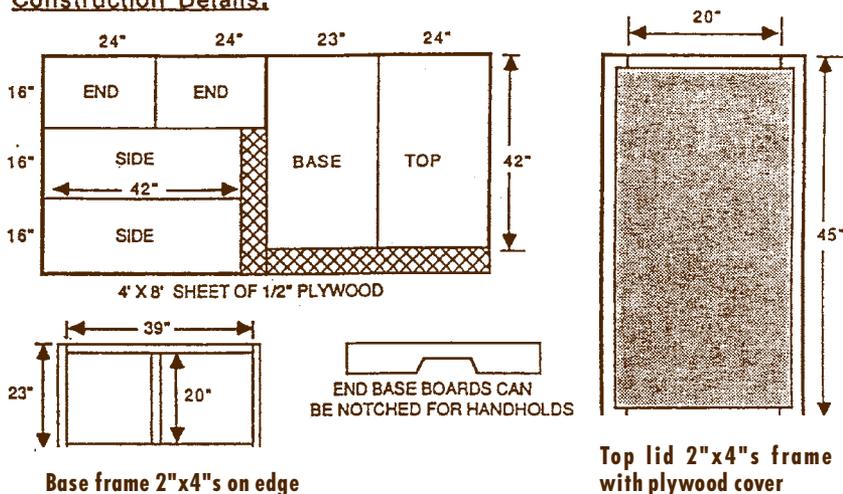
### **Materials:**

- 1-1/2" exterior grade sheet of plywood
- 1-2"x4"x12'
- 1-2"x4"x16'
- 2 lbs. 6d galvanized nails
- 1/2lb. 16d galvanized nails
- 2 galvanized door hinges

### **Tools:**

Tape measure, skill saw or rip hand saw, hammer, saw horses, long straight edge or chalk snap line, screwdriver, and

## Construction Details:



drill with 1/2-inch bit. *Use eye and ear protection.*

## Construction Details:

Measure and cut plywood as indicated in drawing above. Cut the 2"x4"x12' into five lengths: two 39-inch, two 23-inch, and one 20-inch long. Nail the 2"x4"s together on edge with two 16d nails at each joint as illustrated in the base frame diagram above. Nail the plywood base piece onto the 2"x4" frame.

Cut four 1-foot lengths out of the 2"x4"x16'. Take each plywood side piece and place a 2"x4"x1' under each of its ends so that the 2"x4" is flush with the top and side edges of the plywood, and nail the boards into place. Nail the side pieces onto the base frame. To complete

the box, nail the ends onto the base and sides. To reinforce the box, make sure there is a nail staggered at least every 3 inches wherever plywood and 2"x4"s meet. Drill twelve 1/2-inch holes through the bottom of the box for drainage.

To build the lid, take the remaining 2"x4"x12' and cut it into two 45-inch lengths and two 20-inch lengths and lay them flat, short pieces on the inside as indicated in diagram above, so that the plywood top is inset from the edges of the 2"x4" by 1 1/2 inches all the way around the perimeter. Nail the plywood on to the 2"x4" securely. Place the hinges on the backside of the box at both ends on the 2"x4", and on the underside of the 2"x4" lid frame so that the lid will stand upright when opened.

### The Master Composter/Recycler program

is a cooperative effort of Clark County, Vancouver, Camas, Washougal, Battle Ground, Ridgefield, Yacolt, La Center and Columbia Springs Environmental Education Center. For information, please call (360) 882-4567.



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