

## Community Horticulture Fact Sheet # 23 Composting with Worms

It used to be that the only reason people raised worms were for fishing bait. I have never yet speared one of my worms with a fishhook, but I wouldn't want to be without a worm bin. They neatly digest the majority of the food scraps from my kitchen. With that and some recycled newspaper, they make beautiful, rich compost for my garden.

Worms eat fruit and vegetable peels and scraps; coffee grounds and tealeaves (filters and bags go in too); and grains, pasta, breads, etc. that aren't "polluted". Worm bin pollutants include oils and animal products: meat, fish, butter, cheese, sauces, etc.

Some people get away with putting fruit and vegetable scraps into their regular compost piles, but this isn't recommended. Food in open compost bins is very

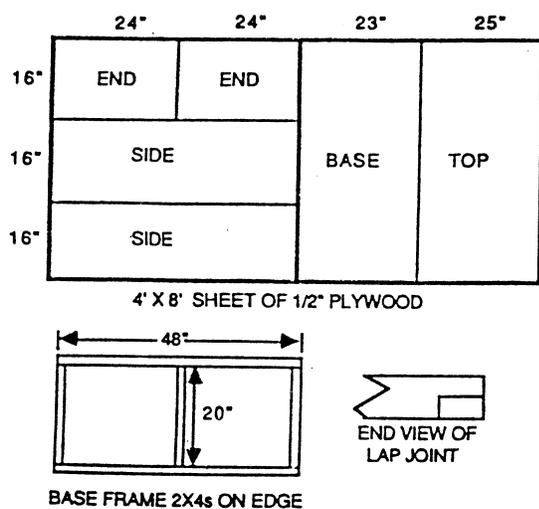
attractive to rats. Because they are enclosed, worm bins are rodent-proof.

The bin described here can be built with simple tools. It will cost less than \$50 with new wood and hardware, less using recycled materials. Actually, any weatherproof box with a tight lid and drilled air holes can be used. You will need about 1 square foot of surface area for each 1 pound of food waste you generate weekly.

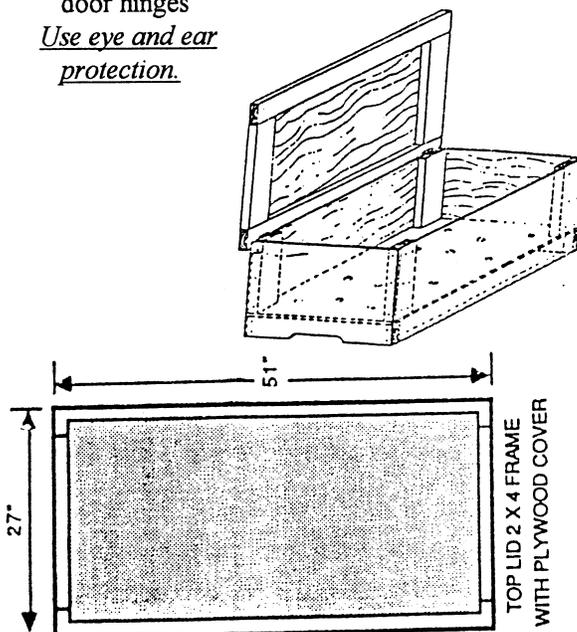
### MATERIALS:

- 1 1/2" sheet of exterior plywood
- 1 14' and 1 16' utility 2x4s
- 1/2 lb. 4d galvanized nails or 1 1/4" drywall screws
- 12 16d. galvanized nails
- 2 3" galvanized door hinges

### CONSTRUCTION DETAILS:



2 3" galvanized door hinges  
 Use eye and ear protection.



Measure and cut the plywood as shown in the drawing. To make the base, cut the 14' 2x4 into five pieces: two 48" and three 20" long. (The remaining 12" will be a side piece.) Nail the 2x4's together on edge with two 16d nails at each joint as illustrated in the base frame diagram. Attach the plywood base piece to the 2x4 frame using the 4d nails or drywall screws.

To build the box, cut three 12" pieces from the 16 foot 2x4. Place a 12" 2x4 along the end of each side panel, so that the top of the 2x4 is flush with the top of the plywood panel and nail it into place. Nail or screw the side pieces onto the base frame. To complete the box, nail the ends onto the base and sides. To reinforce the box, place a nail or screw every 4-6 inches, wherever plywood and 2x4s meet. Drill twelve 1/2" holes through the box's bottom for drainage.

To build the lid, take the remaining 2x4 and cut it into two 51" and two 27" pieces. Cut and chisel lap joints in the corners, then glue and nail or screw the frame together. Center the plywood lid on the 2x4 frame and attach with 4d nails or 1 1/4" screws. Position the hinges on the underside of the lid frame to line up with the 2x4s on the box frame. Screw the hinges onto the lid, then attach it to the box.

*Now that you have a worm bin, here's the process -- from "bedding" the worms to harvesting the vermicompost.*

**Step One:** Tear a stack of old newspapers into 1" wide stripes. (My 1x2x4 foot bin holds over 10 grocery bags of shredded newsprint.) Don't worry about the newspaper ink. Toxic heavy metals are no longer used, even on colored sheets.

**Step Two:** Fill a wheelbarrow or big tub with your shredded newspapers and wet them down good with a watering can. When the paper is damp, but not dripping, put it into the worm bin.

**Step Three:** Invite a friend who has a worm bin to dinner. When he/she asks what they can bring, suggest that a pound or two of worms would be nice. (Assure them that the worms are intended for your new bin, not the dinner table.)

These are red worms not earthworms, so you can't just go dig them. Earthworms need a mineral soil; red worms like a moist, organic muck. An old pile of manure would yield all the worms you need. A few places do sell red worm. It may seem silly to buy worms, but if it saves you from having to sift through cow pies, the money may seem well spent.

**Step Four:** Keep a small covered bowl next to the kitchen sink to collect "worm food." Start burying your food wastes in the wormy, bedding-filled bin. Rotate your burying spots, so that the food gets evenly distributed. Covering the food with bedding helps control flies and smells.

**Step Five:** When the worms have broken most of the bedding and food into a dark, crumbly compost, push the compost over to one side of the bin. (It will have shrunk in volume.) Fill the empty side with new bedding and start burying your food scraps there. As the worms finish decomposing the old stuff, they will migrate over to the new feeding area. After a month or two most of the worms will be out of the old compost, so it can be removed and used in the garden.

If there are still a lot of worms in the finished compost, use their love of darkness to help you return them to the bin. Pile the compost on a tarp in the full sun. After about 15 minutes, scrape off the top, worm-free inch or two. Repeat until you have a very wormy bottom layer that can go back into your bin or may get you a free dinner from a new, would-be worm composter.