

# COMPOSTING WITH WORMS

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The IDEA Garden is a joint project of  
Smith County Master Gardeners,  
Smith County Extension Service and  
City of Tyler Parks & Recreation,  
with funding by the East Texas Council of Government.

## WHY WORMS?

### DID YOU KNOW ONE POUND OF WORMS CAN EAT 1/2 POUND OF GARBAGE A DAY?

Each one of us discards about 6½ pounds of garbage every day. Through organized recycling programs, we attack part of the problem by collecting manufactured items and using them again in the same form or by making a new product.

After separating the manufactured items for recycling, there is still the problem of organic waste. Too often this type of garbage is washed down the food disposal drain, incinerated or buried in landfills where it may not decompose for decades. The disposal alternatives destroy the resources present in organic waste.

So what do we do with it? WORMS! For millions of years the earth worm has been converting organic residues back into usable forms. Worms provide a simple, yet effective means to convert organic waste into a nutrient rich material capable of supporting plant growth. They do it efficiently, without odor or noise, and without complaint!

Plants grown with the vermicompost from a worm bin use the nutrients present in the organic waste and reduce the need for synthetic fertilizers. This on-site recycling technique is simple, effective and convenient. It saves water, energy, landfills, and soil. It is instructive. Best of all, it is fun!

## SETTING UP YOUR WORM BIN

### MATERIALS:

**Earthworm Bin:** A plastic container approximately 1x1x2 feet long (or longer) with a lid. The Smith County Master Gardeners have had success using a 4.5 gallon plastic container.

**Paper:** 2 pounds of shredded paper. Black and white newspaper with a minimum of color print works best. Glossy paper is unacceptable.

**Water:** A 3:1 ratio, by weight, water to newspaper is optimum. Note: 1 pint of water + 1 pound.

**Food:** Typical lunch by products such as apple cores, banana peels, egg shells, lettuce, tomatoes, bread, etc. No dairy or meat products.

**Worms:** Brown Nose Worms. One pound of these worms can consume 1/2 pound of food per day. There are approximately 1000 worms per lb. Garden worms can be used but they are not as efficient.

### SET UP:

1. Drill 6 1/2 inch holes in the bottom of your container for drainage,

and at least ten 1/4 inch holes in the sides to allow for aeration(worms won't crawl out).

2. Shred the paper into 1 inch strips or smaller and place into the bin not exceeding 12 inches deep.

3. Moisten the paper to a 3:1 ratio, water to paper. A 3:1 ration will make the paper about as wet as a sponge.

4. Bury the food that has been cut in small pieces near the surface in one area of the bin.

5. Place your worms in their new home. The number of worms you use depends on the amount of food waste generated. Remember a pound of worms will consume 1/2 pound of organic matter per day.

6. Place the lid under the bin to catch any liquid that drains, and cover the bin loosely with black plastic.

## MENU AND MAINTENANCE

The worm bin is ready and composting should begin. The worms will work their way through the bedding in search of food. They will eat almost any decomposing vegetable material as well as their bedding. For best results, chop food waste into small pieces. **DO NOT** feed the worms dairy or meat products because they will draw unwanted insects, rodents and pests.

Worms are attracted to decomposing food rather than fresh additions to the bin, so it is desirable to record the location of each new food deposit so that a number of feeding locations can be made before returning to the first location.

The worms do not need to be fed daily. If the bin develops a bad odor, you are over-feeding the worms. You need to add more bedding, quit feeding them for awhile, and the problem will go away.

Once the bin is established and the worms are feeding properly, the moisture content of the bin is governed by the moisture in the food and the ventilation of the bin. If excessive moisture is observed, more paper can be added.

## HARVESTING THE COMPOST

In a few months the worm population will have increased and the decomposed bedding will darken in color and decrease in volume. It is time to harvest the worms and/or compost. Move the compost to one side of the container and place 1/2 the original amount of bedding in the empty half. Put food in the new bedding and cover with black plastic, leaving the composted side open to light. The worms will move to the new area in search of food and darkness. In a few weeks the finished compost can be harvested and fresh bedding added.

# USES OF THE HARVEST

Now that the nutrient rich material called worm casting has been collected, it may be used in a variety of ways:

Seed Beds: The vermicompost will not burn your plants, but since your supply is precious, use it where it will do the most good. Prepare your seed bed making a shallow narrow trench. Sprinkle the vermicompost into the seed row.

Houseplants: Use vermicompost as a top dressing to enhance soil texture and fertility.

Transplants: Throw a handful of vermicompost in the bottom of the hole before you put the transplants in place. Works great for tomatoes, broccoli, cabbage, etc.

Watering: A tea can be made by pouring water over the castings that have been placed in a container. Let this mixture set for a couple of days. This is an excellent solution for watering plants.

Seed Starter: a half and half mixture of vermicompost and peat moss is good for starting seeds to be transplanted in the garden.



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Should you need assistance with your Worm Bin or have questions about vermicomposting, contact the Smith County Master Gardeners at the Texas Agriculture Extension Service Office located at 1517 W. Front Street, Suite 116, Tyler, TX 75702

Check the Smith County Master Gardener web site for information about the IDEA Garden and upcoming gardening events:

<http://aggie-horticulture.tamu.edu/county/smith/mg/mg.html>

Educational programs conducted by the Texas Agricultural Extension Service and the Master Gardeners of Smith County serve people of all ages regardless of socio-economic level, race color, sex, religion, handicap or national origin.