

Environmental BULLETIN:

TNRCC ENVIRONMENTAL INFORMATION LINE 1-800-64-TEXAS

WORM COMPOSTING

What is worm composting?

Worm composting involves using worms to turn food scraps, newspapers, and cardboard into a rich compost, which can be added to potted plants, lawns or gardens. It is convenient, and you can do it indoors (even in apartments) or outdoors. Some people who make leaf compost in their backyards also use worms to compost their food scraps and paper.

Why compost with worms?

Worm composting has several advantages over composting in a pile.

- It takes less space. You can do it in 10-gallon containers.
- It is less work. You don't have to build big piles and turn them. Even if you have limited physical abilities, you can do worm composting.
- It is a faster way to compost paper. It is not easy to compost paper in a compost pile.
- It creates a richer soil. Your plants will get more nutrients and will get them faster.

The worms

Brown-nose worms or redworms work best in containers; don't use night crawlers or other large, soil-burrowing worms. Composting worms are available from various stores and catalogs that sell garden or fishing supplies.

The materials

- Paper.** Paper serves as a "bedding" for the worms to live in. The worms consume it along with the other materials. You could use any kind of paper, but worms will consume newspapers, cardboard, paper towels, and other coarse papers faster than fine printing and writing papers.
- Food scraps.** Almost any fruit, grain, or vegetable material other than oil is good for worm composting. Egg shells, coffee grounds, and tea bags are also fine.
- Other materials.** Add a little soil or fine sand to provide grit. Leaves and other yard trimmings can be used as part of the bedding. Live-stock manure is excellent food for worms in outdoor containers.

Materials to avoid

- Cat and dog droppings can spread disease.

- Meat and other animal products, fish, and oil can produce odors and attract pests.
- Some colored inks contain toxic metals.

The containers

You can use wooden boxes, plastic bins, or holes in the ground. A 1-foot by 2-foot by 3-foot box or four 10-gallon containers are big enough to compost the food scraps from a medium-sized family. Punch 1/8-inch holes in the sides for ventilation. Tight-fitting lids help keep pests out of outdoor wooden boxes, but don't use a lid with a plastic container unless the container is well ventilated (holes 1 inch apart). A poorly ventilated plastic container will not let enough air get in and will not let excess moisture get out.

Getting started

- Tear newspaper or cardboard into strips. Soak it in water, and let it drain.
- Add this paper bedding to a bin until it is 1/3 full. Mix in a little soil or fine sand.
- Start with a pound of worms for each pound of food scraps.

you plan to compost each week. For example, start with 2 pounds of worms if you will compost 2 pounds of food scraps per week. Unless you start composting more food scraps, you should never need to add any more worms.

- ✎ Add a 1/2-inch or smaller layer of food scraps on top, mix it lightly into the top 2 inches of bedding, and cover everything with at least 1 inch of shredded paper. Don't leave any food scraps at the surface. Wait two days or longer, and then repeat these steps as materials are available.

Harvesting

- ✎ When a worm bin is full, scoop out any undigested food scraps and the material that contains the most worms – usually the top 3 to 4 inches of the material. Use the rest as compost. Put the worm-rich material back into the bin. Mix it with an equal amount of fresh bedding, and cover with 1 inch of shredded paper.
- ✎ To recover more worms from the compost, spread it thinly on a tarp in sunlight, leaving a few small mounds. The worms will gather in mounds as the material dries. Be careful, because the heat and rapid

drying can kill them. Another method is to sift the compost gently over a fine-mesh wire screen and save the worms that don't go through it.

Preventing problems

- ✎ Store food scraps in a sealed container to prevent flies or roaches from laying eggs in them. Refrigerate them, if possible.
- ✎ Add food scraps in small amounts, especially at first, or your bin may get smelly or heat up.
- ✎ Keep your bin in a shaded and sheltered location where the bedding can stay below 90°F.
- ✎ Don't let the bedding become soaking wet. Add dry paper as needed to soak up excess water.
- ✎ Keep the bedding damp. Old, dry bedding can harbor pests.
- ✎ Handle the worms gently and with gloved hands or a fork (not a shovel).
- ✎ Wash your hands thoroughly after you have handled fresh compost.

Tips

- ✎ It's easier to tear cardboard into strips for bedding if you soak it in water first.

- ✎ If you cut or mash your food scraps and keep them damp while you store them, your worms will eat them faster.
- ✎ Composting worms can thrive under a thick, moist layer of mulch in gardens or landscaping.
- ✎ With plenty of food and a good environment, worms can double their populations every 90 days.

Additional Information

To order this and other publications about composting and yard care from the TNRCC, call 1-800-64TEXAS. For more information on composting or to order additional composting publications electronically, visit the TNRCC's recycling section home page at:

<http://www.tnrcc.state.tx.us/exec/oppr/recysec.html>

Sources: The TNRCC; Jay Mertz, Rabbit Hill Farms, Corsicana, Texas; Larry Wilhelm, The Earthworm Institute (a program of the city of Grapevine, Texas); Mary Appelhof, *Worms Eat My Garbage*, Flower Press.



**TEXAS NATURAL RESOURCE
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