

Let worms recycle for you! They will quickly turn your kitchen scraps into an exceptionally rich fertilizer for your houseplants or garden. Worm composting is easy. You feed the worms your banana peels, wilted lettuce or stale bread and the worms do the rest. Worm composting, also called vermicomposting, can be done year round, indoors or outdoors.

The benefits of vermicomposting are many. Composting is recycling. You and your worms help the environment by reducing the amount of garbage you produce. A medium sized worm box can process more than 5 lbs of food waste each week! In return, you get a valuable soil amendment good for growing just about anything. Worm composting is ideal for composting lots of food scraps quickly. With proper care, your worm box will have a pleasant odor, like that of fresh earth dug out of the ground.

### The Worms

Red worms, also called red wigglers, are the best worms for worm composting. Red worms are a different species from common garden worms and night crawlers, which need large amounts of soil and cool temperatures to survive. One pound of red worms (about 1000 worms) is enough to start a worm bin. Get your worms from a friend's bin, or buy them from a worm farm or bait shop. Just type "worm composting" in your internet search bar to find a place that sells worms. Once your worm bin is established you will have enough worms to help your friends start vermicomposting too.



### The Worm Bin

You may already have what you need to make a worm bin. A plastic storage container (not a clear plastic though) or a sturdy wooden box can be easily fashioned into a home for your worms. If you prefer, you can buy a bin specially designed for



worms. Whatever you use, your worm box should be shallow, between 12"-24", since worms like to live near the surface where they can breathe. Your box should be large enough to thermally insulate your worms—if your box too small, it will heat up and cool down too rapidly. A 60-70 quart storage bin works nicely. Your bin should also have a tight-fitting lid and holes 1/8" or smaller drilled in the lid and on the bottom for ventilation and drainage. Do not drill large holes and do not put holes in the sides of the bin.



**Tip:** *As the worms are composting, your worm bin will produce a liquid fertilizer known as "worm tea". If you are using a plastic storage bin for a worm bin, get a second one and place your worm bin inside to collect this excellent fertilizer.*

### Locating Your Worm Bin

The worms can tolerate temperatures from 50°-84°, but they prefer 55°-77°. They reproduce and compost the fastest when the weather is warm, so if you have your bin outdoors, keep in mind that the worms will not compost food scraps as quickly during the fall and winter as they do in the spring and summer. Also, if your worms are kept outside, be careful not to freeze or overheat the worms. If your bin is outside, keep it in complete shade. Do not place the bin on concrete or asphalt—the radiant heat from the paved surface will kill your worms. If

**Tip:** *If you plan to keep your worms indoors (or move them indoors to protect them from freezing temperatures) place several sheets of damp newspaper over the top of the bedding to add another barrier to fruit flies.*



your bin is outside in the wintertime, place it in a protected area close to your house so that your worms will not freeze. Under a shaded deck against the house is often a great location year-round.

### Bedding

Bedding in a worm bin is like water in a fish bowl. You wouldn't put only an inch or two of water in a fish bowl. Be sure to provide plenty of bedding for your worms to live in, usually 8"-10" of bedding will suffice. Common bedding materials include strips of newspaper, regular shredded paper and shredded cardboard. Moisten the bedding thoroughly and squeeze out excess water BEFORE placing inside your bin. When you are starting your bin, adding a handful of soil is a good idea to provide grit that will help your worms digest food particles.

### Feeding the Worms

Worms will eat fruits, vegetables, coffee grounds and filters, tea bags, rice, pasta and bread. To avoid odors, raise your worms as vegans and do not feed them any meat, fish or dairy products. Do not feed your worms salad with dressing on it, or pasta with meat sauce.



Be careful when adding acidic material to your worm bin—coffee grounds and citrus fruits are tasty to worms, but too much can kill them. If



your worms are avoiding the coffee and citrus fruits in your worm bin, stop adding acidic material for a while.

You can usually feed your worms once a week, burying the food in a different corner of the box at each feeding. Over feeding your worms can lead to problems in your worm bin, so before you feed the worms, check to make sure that the food you added last time is at least half eaten. If not, wait another week before feeding the worms.

**Tip:** Always bury your food scraps at least 1"-2" deep in the bedding to discourage molds and fruit flies.

### Harvesting the Compost

After a few months, you will notice that the original bedding has disappeared and has been replaced with



rich, dark worm compost. Once your bin is about 1/3 full of compost, it's harvest time! Put your worms on a diet for a week, then coax your worms to one side of your box by feeding only on that side. Then remove the compost from the worm-free side of the box, spread the remaining compost evenly across the worm bin and add several inches of fresh bedding.

There will still be some worms in the compost you removed, so you will need to sort them out. Pile the compost on a flat surface in a well lit area (not in the hot sun though or you will kill the worms!). The worms will bury themselves deep in the pile to avoid the light,

so you can scrape off the compost from the pile bit by bit until you are left with a small pile of worms at the bottom (place the worms back in the worm bin).



**Tip:** Worms often avoid eating seeds, so beware that seeds in your compost remain viable and may grow in your garden.

Once you have removed the worms, dry the compost out in the sun and screen

out any un-composted scraps (you can put them back inside the worm bin). Once the compost has been cured in the sun, it can be added to your garden—a home-made, natural fertilizer!

### Troubleshooting

- The bin smells bad
  - There is too much food—feed less
  - The bin is too wet—check drainage holes & add dry bedding
  - The food isn't buried in the bedding—add more bedding to cover the food
- The bin has fruit flies
  - The food isn't buried in the bedding—add more bedding to cover the food
  - The holes in the bin are too large—cover the holes with duct tape and poke smaller holes (1/8" or less) in the duct tape
- The worms aren't eating
  - There is too much food—feed less
  - The bin is too acidic—stop feeding coffee grounds and citrus fruits

### More Information

For more information including City-taught composting classes, composting videos, and local places to purchase composting worms, see [DavisRecycling.org](http://DavisRecycling.org).

Copies of Mary Appelhof's book *Worms Eat My Garbage* (1982) are available for loan at the Davis branch of the Yolo County Public Library, 315 East 14th Street, 757-5591.

# Worm Composting



Let worms turn your kitchen scraps into compost for your garden!



City of Davis  
Public Works Department  
Recycling Program  
1717 5th Street  
Davis, CA 95616  
(530) 757-5686  
[DavisRecycling.org](http://DavisRecycling.org)