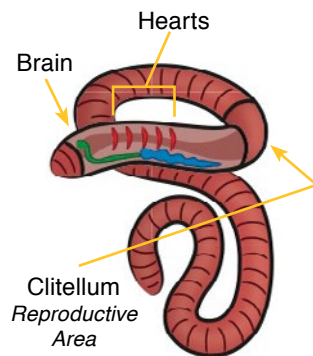


Worms make rich soil for the garden or plant. We gave the worms some food scraps and paper to eat. When the worms ate it, they made rich soil. We get the rich soil to make a good garden. The worms helped us to make a garden. M.G.

ABOUT COMPOSTING WORMS

- Composting worms recycle “waste” into a fantastic natural fertilizer for plants!
- Composting worms are different from the earthworms that you find in the soil. Composting worms may be purchased from an in-state retailer or shared among friends. It is illegal to import composting worms from out-of-state.
- Wet your hands when handling worms; they breathe through their skin and must be kept moist. Worms have five hearts and no eyes or bones! Handle them very gently.
- Composting worms are photophobic and like to live in a dark, damp environment.



CREATING YOUR WORM BIN

Worm bins may be purchased or they can be made from recycled materials. Wood or plastic bins (even old drawers) make great worm bins. Drill holes in the bottom for drainage and in the sides for airflow. Holes should be big enough for

worms to fit through, but your worms will stay put if they are happy! If they leave it means something is wrong with their environment.

- Never place your bin where it will be directly exposed to the sun.
- Like a compost pile, worm bins need the right balance of carbon (bedding), nitrogen (food scraps), air, and water.
- Worm bedding can be made from shredded newspaper, office paper, cloth, or coir (shredded coconut husk fiber). More than one type of bedding may be mixed together. Bedding should always be shredded, fluffed, and thoroughly soaked before being placed in the bin. The bedding layer should be no more than 1-2” thick. Do not compact the bedding. Bedding provides shelter and a balanced diet for the bin ecosystem, retains moisture, discourages fruit flies, and creates structure for air flow.
- Place a dish under your bin to collect drips. Be sure that the bin is elevated and does not sit in the liquid. This liquid, called “leachate,” can be diluted (approximately 1 part leachate to 10 parts water) and used on plants and trees or in compost piles. Avoid the use of leachate on the edible parts of food plants as it may contain undesirable bacteria.
- Ants are an undesirable visitor to worm bins. Your bin may not be moist enough if they are present. Moisten your bin contents and consider creating a water barrier around the bin legs to discourage ants.

EXAMPLES OF DIFFERENT WORM BINS STYLES



Tiered Worm Bin



Large Plastic Bin



Pipeline Bin System
 (minimum 15 pounds of food waste per week)

How to...

Create a Vermicomposting System

FEEDING YOUR WORMS

- Always place a layer of moist bedding over the food scraps to keep fruit flies and odors away.
- Food scraps that are chopped into smaller pieces will make for quicker composting. Avoid “blenderizing” food scraps because the slurry can lock out oxygen and cause a stink.
- Do not add meat, dairy, and fats/oils to your worm bin as they may putrefy and stink.
- Coffee grounds, citrus peels, breads, and grains are OK to add in small quantities.
- Crushed eggshells help to balance the pH of your worm bin; rinse and crush them well before adding.
- Do not overfeed your worms! Add food only when the worms are mostly finished with the previous food batch. If your worm bin smells bad then you are probably overfeeding!



Students creating bedding materials for small-scale worm bins.

HARVESTING AND USING VERMICAST

- Harvest your worm bin about every four to six months or in small amounts as needed; harvest intervals will vary according to the population size of your worm colony.
- “Finished” vermicast that is ready to be harvested does not contain any food scraps and should have a pleasant smell or no smell.
- Vertical harvesting method: Harvest as needed any finished vermicast that has built up in the bottom of your worm bin, or in the bottom layer of a tiered bin system.
- Horizontal harvesting method: Allow the worms to migrate away from the finished vermicast (over time) by placing fresh food scraps and bedding adjacent to the vermicast.
- Finished vermicast must be hand sorted in order to separate your composting worms from the vermicast. This is a great job for kids! Place the vermicast (with worms) on a flat plastic surface or in a shallow bin and provide empty bins for the separating of worms from finished vermicast.
- Use your vermicast to provide nutrition once a month to potted plants and gardens. You may mix it directly into soil, or dissolve it in water and water the soil with the mixture. Aerobically brewed worm tea (or vermicast tea) is made by mixing vermicast with water and aerating it (e.g., with an aquarium pump) for up to 24 hours to cultivate the beneficial microorganisms. Further research is recommended before making worm tea (e.g., visit <http://www.sierra-worm-compost.com/worm-tea.html>).



Harvesting vermicast



A science experiment demonstrating the effects of vermicast on plant growth.