VERMICOMPOSTING An activity with many rewarding benefits

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Composting worms, through their natural digestive process, turn organic waste into worm castings.

Worm composting benefits

- A natural organic fertilizer that stimulates plant growth and health.
- Good for the environment – recycles vegetative waste, keeps food waste from landfills.
- Fun, safe, simple and an educational activity
- Provides worms for fishing, food for fowl

Preparation

Worm composting bins are self-contained systems where worms can eat and live while converting your kitchen scraps and recyclable paper into excellent compost for your plants. Bins have a small footprint and can be created with repurposed objects so cost is minimal to none.

Bins: Plastic storage tub, Styrofoam ice chest, picnic cooler, file cabinet, old dressers – something non-transparent.

Consider where it'll be kept and weight when filled. Red worms are surface feeders. About a 12" depth of bedding allows space to bury scraps. A good starter bin size is equal to about 4 large shoe boxes (14 gal Rubbermaid tub). One lb of worms requires about 1 square foot of surface area.

Lids: Provide protection from insects & pets but allow air flow and evaporation of excess moisture. Plastic lids need a large hole covered with a piece of landscape fabric or loose weave fabric. Duct tape the fabric on the inside of the lid.

Choosing a bin site: Worms are photophobic – they want to be in darkness. If your bin is clear, wrap it in a black garbage bag or store it under the sink or in a closet. Make sure it is handy for feeding.

A temperature between 55 & 77 degrees is best. Temps under 55 or over 80 will greatly slow activity. Garage temperatures are usually not suitable.

Worm bedding: Shredded newspaper (no shiny paper), cardboard, paperboard (cereal, pasta boxes), coconut fiber (coir) Soak bedding and wring out to the moisture consistency of a wrung-out sponge. Fluff and fill bin 10"-12". It will settle to about 8."

Grit: Worms have gizzards like birds and need grit to break down their food. Sprinkle a handful of soil, sand or eggs shells ground up in a blender, into the bedding.

Worms breathe through their moist skin so keep bedding moist but loose to provide air. This will keep oxygen levels high and aerobic bacteria active which decomposes the organic material.

Finally, bury a couple handfuls of food in the bedding.

Prepare bin a week prior to adding worms to allow for decomposition of material.

Purchasing Worms: Red wrigglers or red tigers (eisenia fetida) process food quickly, have a high reproductive rate, can tolerate fluctuations in moisture, temperature and acidity, plus are good fishing worms.

A pound of composting worms equates to about 1,000 worms & costs between $20 and $40. Buy from a reputable dealer.

Local fish bait stores sell red worms, but cost is high and worm health is questionable.

Adding worms: Sprinkle worms on top of the prepared bedding. Place under a light and the worms will burrow into the bedding. Keep the lid off and a light on for about 24 hrs.

Feeding & suitable worm foods for indoor bins

Lift half the depth of the bedding, add food and then cover with bedding. This will reduce insect attraction to your bin.

Love It: Pumpkin, watermelon & cantaloupe rinds, banana peels, moldy strawberries & grapes

Like It: Coffee grounds, paper tea bags, vegetables (peels & tops), fruits (peels & flesh), a bit of rice, plain bread, pasta, or cereal, and floral arrangements

Avoid: Citrus (acidity can be toxic, oil in rinds undesirable), meat, bones, dairy, eggs, onion & garlic (offensive odor in bins). If fruit flies become an issue, avoid banana peels.

Absolutely not: pet feces, wood ashes, poisonous plants

Food should be moist, not wet. For faster decomposition, chop or grind food. Freeze collected food scraps to kill off fruit flies and speed decomposition. Thaw and drain off liquid.

A top, dry layer of bedding material discourages fruit flies and worm escape.

Maintain balance of food & bedding to worms.

Do not overfeed or the bin will become too wet and compact, decreasing oxygen.

Frequency of feeding: Start with twice a week. Aged scraps result in faster turnover. Move feeding site around the bin. Mark feeding site with a "food flag." Increase or decrease food amount according to consumption rate.

One lb of worms can eat one lb of kitchen waste per week. As your worm population increases, food amount can increase. Poor conditions or drastic changes can reduce eating and reproduction.

Collect castings approximately every 3-4 months. Below are two separation methods.

Divide & Conquer: Prepare new bedding. Pull all the vermicompost in your bin to one side and add the fresh bedding to the empty side. Bury food in the new bedding and cover only that side with plastic. Over time the worms will migrate to the moist, new bedding with food, away from the drying castings which can then be removed. This process can take more than a month. A more thorough separation can then be done with the *light method.*

Light method: Prepare new bedding. Dump bin contents on a piece of plastic and move castings/worms into small loose piles. After the worms burrow away from the light, carefully scrap castings off the exposed areas. Repeat until most casting is removed & a pile of worms remain. Immediately sprinkle worms into newly prepared bin. (This method allows you to weigh your worms.)

Castings use: Add a handful to seedling planting holes for a healthy boost and sprinkling in seed furrow before covering seeds. Use as top dressing for indoor plants and outdoor container plantings. Mix ¼ castings with ¾ potting mix for containers.

Worm Tea multiplies the benefits of a relatively small amount of compost, promotes healthier and better tasting fruit/vegetables than that treated with chemical fertilizers; is a natural repellent for insects, will not burn plants, provides lawn fertilization without leaching of nitrogen into lakes or water table.

To drench soil: Add a couple handfuls of castings to water in a 5-gal bucket. You can add 2 Tbl of unsulfured molasses to feed the microbes. Aerate for 24 hrs. Use tea to water plants within 24 hrs.

To create spray for foliar feeding: Fill a 5-gal bucket with approx. 4 gallons of water. Aerate for several hours with an aquarium air pump and bubbler to remove chlorine. Use fine mesh fabric to create a sack. Being sure to allow castings to move loosely in the mesh, add a couple handfuls of castings, tie off and suspend in the bucket. Aerate for 24 hrs and then use within next 24 hrs.

Recommended reading:

Worms Eat My Garbage 2nd ed. by Mary Appelhof (Considered the "worm bible" to vermicomposters)

The Best Place for Garbage by Sandra Wiese (Practical, cost-free suggestions with lots of humor added. Extensively covers both indoor & outdoor vermicomposting)

The Worm Book by Loren Nancarrow & Janet Hogan Taylor (Great for beginners and children. Even a chapter of worm recipes!)

Diary of a Worm by Doreen Cronin (Humorous picture book, ages 5-8)

Compost By Gosh! By Michelle Eva Portman (Great children's book for families starting a vermicomposting bin.)

Helpful weekly newsletter http://www.wormfarmingsecrets.com/

"The Biology & Business of Raising Earthworms" Ebook $20

Short audio clips on compost tea http://www.wormwoman.com/acatalog/compost-tea/flowerfield-compost-tea.html

Product source https://unclejimswormfarm.com

Commercial bins

https://wiki.ezvid.com/best-worm-composters?id=adw&gclid=CNGrjrXz2dICFQYcaQodPWQPJQ

https://unclejimswormfarm.com/

https://www.hayneedle.com/product/exaco-8-gal-eco-kitchen-worm-compost-bin-on-wheels.cfm

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