



Vermiculture

About Vermiculture

Also known as vermicomposting, worm composting uses red worms to turn food scraps or plant trimmings into a valuable organic soil amendment. The type of worm used is the *Eisenia foetida*, commonly called a red wiggler. Red wigglers live and reproduce well in a confined space, processing half their body weight of organic material per day. Worms are quiet, odorless and low maintenance.

Benefits of Vermiculture

- Takes up very little space
- Requires little physical activity
- Allows compostable material to be added at any time without slowing the decomposition process
- Reduces the amount of household waste thereby improving the environment
- 1 pound of worms will eat approximately ½ pound of food per day

Getting Started

Select a worm bin. It can be homemade or commercially made. The bin must be dark inside, have a tight fitting lid, small ventilation holes that keep out pests, and holes in the bottom for drainage. Worms thrive in an optimal temperature of 77 °F.

Bin size. The bin should be 8 to 12 inches deep. Place about ¼ pound of worms per cubic foot of bin. A good starting bin for 1 pound of worms would be about 4 cubic feet (2 ft. wide X 2 ft. long X 1 foot deep), or approximately the size of a medium plastic bin.

Place the bin in an area that does not experience direct sunlight or extreme temperatures – a shady place outdoors or inside the garage or home.

Prepare the worm bed. Worms do not like to live in their own castings, preferring fluffy bedding in which they can eat and breathe. Common bedding material includes shredded cardboard, paper, newspaper, or coir (shredded coconut husk). Do not use soil. Bedding should be regularly checked to ensure it is deep enough to cover the food provided for the worms. Bedding should be slightly moist like a wrung out sponge. Add a handful of sterile soil, sand, coffee grounds or well-crushed eggshells to provide grit, which helps worms digest their food. When the bed is completed, add worms.

Feeding the Worms

Worms can eat vegetable and fruit scraps, pasta without oil or sauce, bread, coffee grounds, tea leaves, crushed eggshells, and other kitchen leftovers. They also eat green yard trimmings. Avoid adding diseased plant trimmings. Do not feed them meat, fat or dairy products, citrus, or any oily or processed foods. No vinegar or pickled food. Chopping or cutting everything into small pieces makes it easier to eat. Do not overfeed! Avoid feeding more until the worms have eaten most of the previous meal. Add food 1 to 3 inches below surface of bedding; keep food covered. Place food in a different spot each time you feed.

Harvesting

Harvest worm compost (castings) when most of the bin contents are dark, sticky, and the original amount of bedding is reduced. There are different ways to harvest. Since worms follow food, they can be encouraged to migrate up and out of existing castings into new, fresh bedding by placing food under the new bedding. Another method is to dump the bin contents in piles on a plastic sheet in sunlight. Worms will migrate down and away from the light. Gently brush off the outer layer of castings until only the worms are left in the center of the pile, waiting about 30 minutes each time. Place worms into fresh bedding.

Using Finished Compost

Worm compost is best used as a soil conditioner or in a planting mix. Use equal parts of worm compost, peat moss, and perlite or vermiculite. It should not be used alone as a growing medium. It can also be used as a slow-release fertilizer - use on lawns, around vegetable plants, or worked into the soil.

Troubleshooting Guide		
Symptoms	Problems	Solution
Bin smells bad	Too much food. Too wet. Not enough air circulation.	Feed less. Remove moldy food. Add dry bedding. Check drainage.
Flies	Food is not buried	Bury food. Cover bedding with sheet of moist newspaper.
Worms dying	Not enough food. Bin too dry. Bin too wet. Too many castings.	Add food. Moisten bedding. Add bedding. Harvest castings; add fresh bedding.

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