

Have a Cup of Worm Tea??!!! The Basics of Vermicomposting (published 2026-10-17)
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The soil in Tennessee is mostly hard orange clay. In order for plants to thrive, the thoughtful gardener needs to add fertilizer. Commercial fertilizer can be very expensive, and it's often complex to understand what exactly is needed in what spot. Another option for the Tennessee gardener is to grow your own fertilizer. This is what vermicomposting is all about—growing your own fertilizer for pennies!!

Vermicomposting is an easy and fun way to create high-quality soil amendments. It's like growing black gold for plants! And it is a lot simpler than panning for gold. Vermicompost is a nutrient-rich organic fertilizer and soil amendment created by earthworms to break down food scraps, plant waste, and bedding materials. When the worms are fed organic matter, they produce castings, or feces which is the compost. Here are some of the basics:

There are 3 types of vermicomposting systems:

1. Worm Bins: These are above ground, and relatively inexpensive to build. They are generally portable, which allows the gardener to move them indoors and outdoors depending on the weather.
2. Worm Beds: These are long troughs dug into the soil. This helps with temperature regulation, as worms are in their natural environment. Digging is required to remove the worm composting, which can be laborious and messy.
3. Worm Windrows are the best of both worlds. A windrow is a long mound that sits on top of the ground. It's fairly large and resists sudden changes in temperature. They also provide easy access to remove the worms and compost.

The supplies needed for a worm bin are easily purchased online, and from many stores locally. You can also make it from common household items (plastic stacking bins, wire mesh, and soil). The most important ingredient is the red wiggler worms. These worms double in mass every 60 days and are prolific in their growth and production of their waste. This allows the gardener to remove 10% of the waste every week, and still never run out of worm compost or worms!

One of the biggest difficulties with growing worm compost is regulating temperature. The worms prefer temperatures 65-85 degrees F (19-29 degrees C). They will die if exposed to higher temperatures too long. In the colder weather, they will cocoon and hibernate during extended periods of cold and hatch when it warms up. One way around the cold weather problem is to keep the worm bins in a warmer environment (garage, green house).

Worms love most organic food from your kitchen. You can set up a small milk jug cut with a slat on the top to put in your food waste. Anytime you have waste from vegetables, eggshells, fruits, nutshells, coffee/tea, just put it in the bin. You can also cut up pieces of newspaper (black print only), yard trimmings, and house plants. Just be sure to avoid these items, as the worms shouldn't eat them: citrus, onions, dairy, fats and oils, stickers on produce, protein (eggs, meats, fish bones), animal feces, or medications.

Here's the step by step in making a rich tea for your garden:

1. Put 1-2 cups of the compost into a 5-gallon bucket of water.
2. Let it sit for up to 48 hours. Some gardeners like to aerate the water - some just stir it around occasionally.
3. Mix the resulting liquid 10:1 with water before applying to plants.

One word of caution: Worms may also produce a liquid called leachate. Some folks suggest this can be used as fertilizer. However, it may contain pathogens or phytotoxins and it is strongly recommended that the liquid be discarded. From the University of California Division of Agriculture and Natural Resources*: *“Leachate is the liquid that drains from the worm bin and should not be confused with worm tea. Leachate can contain pathogens or phytotoxins harmful to plants or humans. If it smells bad, DON’T USE IT. If using leachate, dilute 10:1 (water/leachate) and avoid using on edible plants.”*

Worm compost and tea help reduce food waste by turning kitchen scraps or expired produce into usable fertilizers. This helps turn your garden into a thriving spot to grow whatever you want, using home-grown, organic fertilizer! It’s a win-win for your budget and the environment! For more details, check out the Resources.

Resources:

“Worm Composting Basics,” <https://compost.css.cornell.edu/worms/basics.html>

“Worm Composting,” <https://hgic.clemson.edu/factsheet/worm-composting/>

“Composting with Worms,” <https://extension.oregonstate.edu/catalog/em-9034-composting-worms>

“How to Create and Maintain an Indoor Worm Composting Bin,”
<https://www.epa.gov/recycle/how-create-and-maintain-indoor-worm-composting-bin>

“Vermicomposting (Worm Composting) Tip Sheet,”
<https://wpcdn.web.wsu.edu/extension/uploads/sites/30/2024/10/Worm-Composting-Workshop-Handout-v2022.pdf>

*“Worm Composting,” <https://ucanr.edu/sites/default/files/2024-04/396102.pdf>

How do I ask a question?

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