

# Vermicomposting



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# What is Vermicompost?

- A natural amendment of mostly finished worm compost (food and bedding) enriched with worm “poop” and mucus.
- Also known as “worm castings”



# Why Use Vermicompost? (from Wikipedia)

- Vermicompost is richer in many [nutrients](#) than other [composting](#) methods.
- Has microbial life which helps convert nutrients already present in the soil into plant-available forms.
- Worm castings also contain worm [mucus](#) which keeps [nutrients](#) from washing away with the first watering and holds moisture better than plain soil.

# Soil Uses of Vermicompost



- improves its physical structure;
- enriches soil with micro-organisms, adding [plant hormones](#) such as [auxins](#) and [gibberellic acid](#), and adding [enzymes](#) such as [phosphatase](#) and [cellulase](#);
- "microbial activity in worm castings is 10 to 20 times higher than in the soil and organic matter that the worm ingests" according to researcher Clive Edwards];
- attracts deep-burrowing earthworms already present in the soil;
- improves water holding capacity;
- enhances germination, plant growth, and crop yield
- improves root growth and structure

# How I use Vermicompost

- Where I put seeds in, I prep with a light coating of vermicompost.
- When I put transplants in, I sprinkle around the edge of the root zone, after planting
- To increase plant health and production of mature plants, I will sprinkle vermicompost around root zone
- 10-20% in seed starter and potting soil
- Spray plants/yard/trees with Worm Wine <sup>TM</sup>

# What are the environmental benefits of vermicomposting?

- **Fact:** One pound of mature worms (approximately 800-1,000 worms) can eat up to half a pound of organic material per day
- **Fact:** Worms can eat: fruit, vegetable, and grain waste, manure, leaves, newspaper, cardboard, office paper, junk mail, and other sources of cellulose.

**Fact:** The Environmental Protection Agency estimates that each U.S. resident throws away 7.2 ounces of food waste each day. Dallas County had an estimated 2008 Census Population of 2,412,827 people. That population would produce 1,085,772 lbs. of food waste a day! Families or individuals that vermicompost remove that waste stream from the landfill.

- **Fact:** A typical cubic yard of residential waste weighs 225 lbs/cubic yard. A typical garbage truck can hold 25 cubic yards of waste. If all food waste was vermicomposted on site, 193 garbage truck trips could be reduced every day in Dallas County.

# More Environmental Reasons

- **Fact:** In a healthy worm bin, the worms and beneficial microbes work together to neutralize odors. Worm bins are suitable indoor composting systems.
- **Fact:** Vermicomposting is not only important as a space benefit, but it also removes the danger of harmful methane gas being produced by the food and leaf waste in the landfills, which is then released into our air for decades to come. Worm composting does not produce methane.
- **Fact:** Methane in the Earth's atmosphere is an important [greenhouse gas](#) with a global warming potential of 25 compared to CO<sub>2</sub> over a 100-year period (although accepted figures probably represents an underestimate<sup>[21]</sup>). This means that a methane emission will have 25 times the impact on temperature of a carbon dioxide emission of the same mass over the following 100 years.
- Replacing chemicals with natural product—feeding the soil ecosystem





# How to Vermicompost

- Homemade Rubbermaid tote
- Purchased Stacking System
- Forest Ecosystem
- 4 inches of “forest floor”
- 6-8 inches of bedding
- Oxygen, Moisture, Food



# What to Feed Red Wigglers



- Good: most fruits/veggies
- Moderation: Citrus, grains, coffee, tea, garlic, onion, broccoli or cabbage
- No: meats, oil, dairy, pineapple or papaya

# How to Harvest

- Light method
- Sifter method
- About every 8 weeks
- Add new material to bin at this time
- Population control
- Use the harvested vermicompost around plant base or as worm casting tea.



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