



Ulster County Resource Recovery Agency Recycling Outreach Team

Vermicomposting Guide

What is Vermicomposting?



Vermicomposting is a method of composting that uses the natural ecology of worms to break down food scraps. In non tropical areas, only Red Wiggler Worms (*Eisenia fetida*) are suitable for this method of composting.

Vermicomposting is done indoors, in a sealed container called a “**worm bin**” or a “**worm farm**” which can be pre-manufactured or homemade. Worms consume food scraps and produce **castings** or **vermicompost** which is among the highest quality of fertilizers on Earth! Worm composting is relatively easy and a great option for people who live or work in small spaces.

Is Vermicomposting “right” for you?

BENEFITS

- Compost indoors all year-round.
- Doesn't require yard waste.
- A compact worm bin doesn't take up a lot of space.
- Can be very low maintenance since worms do the work for you!
- Very low cost to build your own bin.
- Can create “Compost Tea.”
- Worms have a fast reproductive lifecycle, which leads to faster composting and processing of large amounts of food scraps.
- Worm castings make a great fertilizer.

DRAWBACKS

- Due to the restrictive diet of worms, this is not a “zero waste” composting method.
- Not a good solution to manage yard waste.
- Harvesting finished worm castings can be time-consuming.
- Worms are an “ick factor” for some people.
- Poorly managed bins can produce fruit flies and other insects.

Worm Bin Basics

All worm bins have the same functional design; worms live in a main compartment and overtime, they migrate to different stackable trays or layers in search of new food sources. A lower compartment acts as a drainage layer for excess moisture (empty regularly). As worms move through the trays, they leave behind their castings, making harvesting the compost fairly easy.



- 1 The Worm Factory \$75 - \$149
- 2 The Essential Living Worm Composter \$75 - \$120
- 3 The Garden Farm Organic Waste Recycler \$120 - \$150
- 4 The Worm Factory \$75 - \$149

Bins can differ on design elements like the number of layers/trays, shape, size, and drainage features. Bins should seal tightly while still allowing some airflow. Locate the bin a cool and dry place, like a basement, broom closet, garage, etc. Red Wigglers survive best in 55 - 75 °F and extreme weather can cause the worms to escape the bin or die.

DIY Worm Bins



Total Cost \$10

- Two plastic storage bins work well. Use shallow containers less than 2 feet high.
- Use a 1/8 inch drill bit and an electric drill to make holes in the bottom of the inner container.
- Nest this container inside the other container.
- Drill holes in the lid.

Worm Bin Bedding



Coco coir



Shredded Newspaper



Wood chips



Shredded Paper Bags



Natural Sawdust



Hay/Straw

Bedding helps to control moisture and temperature, protects against heat and light, serves as a backup food source, forms a physical barrier to prevent odor, and discourages insects from laying eggs in the bin.

Bedding should always be moist, but not too wet, about **40-50% moisture**. Use a spray bottle to mist inside the bin occasionally. Make sure you're not using sulfur water or well water!

DO NOT include color magazines or treated wood shavings, as these contain toxins.

"Worm Diet" Do's and Don'ts

COMPOST THESE ITEMS

- All veggie skins, trimmings, peels, etc.
- Most fruit (no citrus)
- Loose leaf tea & tea bags (no staples)
- Coffee grounds
- Small amounts of cooked foods are okay, but moderation is key!
- Crushed egg shells, crushed nut shells, etc.

AVOID THESE ITEMS

- Meat, bones, fish
- Oil/fats/grease (including olive oil, sauces, salad dressings, etc.)
- Milk/cheese, dairy products,
- Citrus fruits
- Herbs or other high pH foods

ORDER WORMS ONLINE

This list is provided for your convenience and is not an endorsement of the vendors/suppliers.

- Uncle Jim's Worm Farm, unclejimswormfarm.com
- Worm Man's Worm Farm, wormman.com
- Gardener's Supply Co, gardeners.com
- Flowerfield Enterprises, wormwoman.com
- Devine Gardens, devine-gardens.com/

If you order *Red Wiggler* worms online, they will ship directly to your doorstep! Make sure you have your worm farm ready. In general, **one pound of worms is enough to get started** as worms reproduce quickly.

FEEDING TIPS

- Chop food into very small pieces.
- "Bury" the food scraps in the bin underneath the worms and bedding. Rotate these "burial sites" weekly.
- **DO NOT** feed the worms a little at a time. Store food scraps in a small bucket and feed the worms as one big batch (weekly).
- **DO NOT** put food at the surface of the bin.

COMPOSTING TIPS

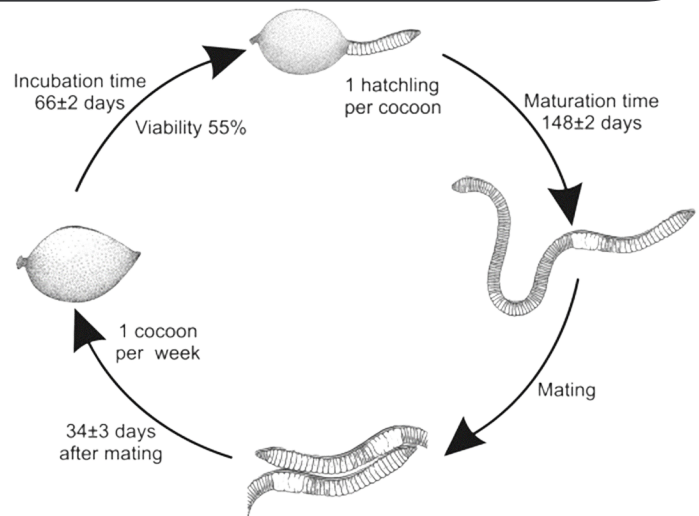
- Add a cup of soil to the bin to help get things started.
- Add some used coffee grounds to introduce a food supply.
- Make sure the inside of the bin is moist and damp. Use a spray bottle to lightly mist everything.

How to Eradicate a Fruit Fly Issue

- Stop feeding the worms for 2 weeks and store food scraps in the freezer while you correct the issue.
- Take the bin outside for 1 hour with the lid off.
- Clean the food scraps collection container.
- Add more fresh bedding.
- Place DIY fly traps near the bin.

Worm Lifecycle

- A mature *Red Wiggler* (3 months old) can be identified from the band (clitellum) on the middle of their bodies, which is used for reproduction.
- Worms will mate for a few days, forming cocoons where hatchlings will emerge after a month.
- Cocoons take up to 11 weeks to mature. Each cocoon typically holds 3 - 8 (up to 20) hatchlings.
- After a couple months juveniles mature into reproducing adults and the cycle begins again!
- A *Red wiggler's* life span is typically 4-5 years in a worm bin.



Harvesting Finished Compost

Remove the finished compost from the bin at least **twice per year** or **every 3 months**. Worms will eat their own castings as a back up food source, but over time, this can become toxic to them. To harvest finished vermicompost, consider these methods:

Method 1: Feed and Wait

After feeding the worms in one corner of the bin, stop feeding and **wait 2 weeks**. Freeze any food scraps in the meantime.

Most worms will move to the side of the bin with food. Easily harvest the compost from the other side of the bin.

Use a sheet of cardboard as a work area. Inspect the castings carefully to make sure there aren't any worms left behind. Return the worms to the bin.



Method 2: Dump & Sort

Set up sheets of cardboard or use a tarp as a workspace. Remove the compost from the bin one handful at a time, and set aside each handful into small piles.

Shine a light onto the workspace (or do this outside on a sunny day). Wait about 10 minutes. The worms will burrow to the bottom of each pile to avoid the light.

Then, easily sort the worms from their castings. Return the worms to the bin.



The Power of Vermicompost!

Vermicompost is a powerful natural fertilizer because the worm's gut contains beneficial bacteria, enzymes, and proteins, and carbohydrates that can influence the quality of the finished compost.

Vermicompost is very high in Organic Matter, which is NOT usually found in high levels of conventional fertilizers. Vermicompost typically contains **40-50% more humus** than the average top layer of soil and up to **ten times the level of nutrients** compared to compost made without worms!

