

INDOOR COMPOSTING

GUIDE - HELPFUL TERMS

- **Vermicomposting:** Using worms to compost organic material. Vermicompost is generally richer in nutrients than regular compost due to a higher presence of microbes and the nutrient-retaining properties of worm castings. Red wiggler worms are the most common worms used for composting though European earthworms are sometimes used. Bins are the most common method for vermicomposting on a small scale.
- **Worm Casting:** Worm excrement that is nutrient-rich with excellent moisture retention often used as a natural fertilizer and soil amendment. Worm castings contain mucus that helps retain nutrients so they are not washed away during waterings or rain. They also stimulate microbial life within the soil, which aids decomposition and overall soil health. As a soil amendment, worm castings are often used not only for nutrients but also to improve soil structure and oxygen/water penetration.

COMPOSTING BIN



There are two options for vermicomposting bins:

(1) Construct your own bin, using tutorials like the one on the EPA website (www.epa.gov/recycle/how-create-and-maintain-indoor-worm-composting-bin)

OR

(2) Purchase a 16 gallon Vermicomposting bin for \$72.25 (school price) at Bens Bins (wehaveworms.com)

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GETTING STARTED

There are many ways to start up a worm bin. Generally speaking, what you are aiming for is coming as close as you can to duplicating natural worm habitat. Red Wigglers are composting worms, not soil worms. They enjoy moist, loose, decomposing, organic matter to move around in while searching for food. I prefer natural bedding such as leaf mulch, old working compost, mild manure, or a mixture of any of these. I'm lucky to have a few llama farms nearby, and to live in New England where there are plenty of leaves. One popular way of starting your bin is with shredded and moistened newsprint. Although there are problems with using Newsprint, it works well and is readily available.

Whichever medium you choose, I recommend at least 5 or 6 inches of starter bedding. This provides plenty of depth for the worms to avoid the light and for burying your food scraps.

SUPPLIES

Worms is worms ...but suppliers are not all the same. I have purchased worms and have received a full weight of worms. I have also gotten my measure of worms with bedding included in the weight. Obviously you want to know as much about this in advance before you make your purchase. By the pound or by the each, buyer beware.

Worms are fragile, especially when they are in a box going from place to place, so think ahead when ordering. These creatures are alive and deserve your thoughtful care. Get assurances that your worms will ship Priority Mail or equivalent and timed to arrive so you will be available to receive them on the day you expect them, especially if it's freezing or hot. They will not like to spend the weekend in the post office or be left on your porch or in your mailbox.

I have a preference for the worms to be shipped in breathable, reusable fabric bags. Keep the bag on hand; you may need to mail some worms to someone else some day. For obvious reasons get assurances that the worms will be packaged sufficiently and securely in the carton to prevent bouncing around.

Better yet! It's great if you know someone with a worm-rich compost pile who will let you gather some worms yourself. In any case, make sure your bin and bedding are set up and ready to use before your worms arrive.

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CARE & FEEDING

Red Wigglers are very good at what they do. They help decompose organic matter by converting it into nutrient rich castings and leachate, aka worm poo and worm tea. They will eat the equivalent of between half their weight and their full weight per day of scraps.

They will thrive as long as there is adequate temperature, moisture, food supply, and something enjoyable and homelike for them to crawl around in where they can escape from light. Bin placement is important.

- Optimum temperature range is between 50 and 80 °F.
 - Worms need to be protected from freezing, overheating, and drying out.
 - A dark cool place is preferable to the worms.
 - If you keep your bin outside in hot weather, shade is recommended.
 - Sun on a dark colored box will heat it up to intolerable temperatures for the worms.
 - If the bin gets too hot the worms will migrate out.
- Obviously, the opposite is true in cold temperatures.
- They also do not like acidic environments, so I recommend limiting or avoiding citrus.
- Also, sharp flavors such as hot pepper or lots of raw garlic will burn them.
- Keep in mind that everyone in your worm bin has a small mouth. Large solid things like carrots and broccoli stalks tend to stay put for a long time.

OTHER RESIDENTS

Keep in mind that worms are just one of the inhabitants that will reside in your bin.

Two of the more common volunteers you may encounter are springtail mites and tiny white pot worms. Both are generally complimentary.

The pot worms are ok but can become quite abundant. I've only experienced a pot worm outbreak once. I've never tried this, but I hear that pot worms are drawn to milk-soaked bread. If you prefer, you can trap the pot worms on the bread and feed everything to the birds. Keepers of tropical fish can always use pot worms for fish food. Yum!

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OTHER RESIDENTS

Truth-in-advertising ... If you're not careful about it, fruit flies and fungus gnats will show up. Worm bins are choice habitat for them.

- Fruit flies and fungus gnats can be avoided by completely burying your contributions as you add them.
- As your bin matures, you may need to add more surface bedding material to gain sufficient depth of cover and to block access by the flies and gnats.
- One trick I have tried with success is to freeze my compost overnight before adding it to the bin. This will destroy any fly or gnat eggs that may have been deposited on any exposed rind.
- If you have an open fruit bowl, there's a good chance you will have eggs.
- If you do get more fruit flies than you'd like, you can make a vinegar trap to put inside the bin, or
- You can introduce predators that specialize in fly and gnat larvae.
 - Hypoaspis mites or *S. Feltea* nematodes are two examples of beneficial predators that specialize in fly larvae.
 - There are plenty of websites that specialize in creature identity and abatement strategies. You can also check the links section on the next page.

FAQs

Q: Do the worms die off or do they reproduce?

A: Good question. They will adjust their population to the amount of food that's available for them - their carrying capacity.

Q: If they reproduce, what do I do with the offspring?

A: Probably a good idea to allow them to build up a large enough population to handle all the waste you generate. This may take one or more than one bin. Extra worms can be given to others who want to start a bin, can be added to your outdoor compost, or can be sold. I can always use extra worms for my composting projects. I encourage others to gift worms to people to start bins. Teachers can use worms in their classrooms. Chickens enjoy them too.

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FAQs (continued)

Q: Can it be done in an unheated garage?

A: It's a good idea not to let the bin get colder than 45 or 50 degrees or so. The composting action slows way down.

HELPFUL LINKS

http://www.recyclenow.org/r_composting_worm.html

<http://www.cityfarmer.org/wormcomp61.html>

<http://compost.css.cornell.edu/worms/moreworms.html>

<http://www.earthlydelight.co.nz/worm-faqs.htm>

<http://greenmethods.com>

<http://www.docstoc.com/docs/19870688/Worm-Bin-Creatures-%5B1%5D-08-03-05>



Photo credit: <http://bigredworms.com/product/red-wiggler-worms/>