

Congratulations! It's a worm!

So you've recently adopted worms and need some guidance on not killing them. Or better yet, keeping them so fed and so happy they produce abundant castings for your garden, diversify the biology in your soil, and turn your "garbage" into food! An ideal worm habitat should be relatively hands-off and low maintenance. This is not rocket science; anyone can do it!

Daily-ish

- Make sure all worms are in their container; there shouldn't be any worms visible above the surface of the soil. If you see worms on the surface or crawling outside of the soil, it could be a sign that something is wrong in their bedding.
- Check the moisture level is at a comfortable place for the worms. Squeeze a handful of bedding in your fist and watch how much water seeps out of your hand. You're aiming for just a little bit of moisture through your fingers. If there is no water visible when soil is squeezed it is too dry, and if water can be squeezed out in multiple drops, it is too wet.

Weekly-ish

- Feed your worms $\frac{1}{2}$ cup of greens¹ and top with $\frac{1}{2}$ cup of browns² on alternating halves of the bin every week. Bury their food about 2 inches below the soil. How quickly the worms eat will vary depending on what you feed, the size of the food pieces, and how far along in the decomposition process it was before entering the bin. **To avoid overfeeding, the general rule of thumb is: only add more food if you can't easily recognize the food you last fed them.** It might be closer to 2 weeks between feedings for the first few weeks, and that is okay. As time goes on, the population will grow, and they'll eat faster. To give you a visual, they can eat up to $\frac{1}{2}$ their body weight in food every day. 1,000 worms (with no bedding, just worms) weigh roughly 1 pound.

Every 2 Months-ish

- Harvest your bin and feed your plants! After at least 2 months of feeding, your bin should have accumulated a significant amount of castings and will be ready to harvest!
- To harvest the castings in your bin: bait the worms with something sweet and juicy on the half of the bin you most recently fed (examples: watermelon, cantaloupe, avocado) and then harvest the opposite half of the bedding/castings mixture. To reset your bin, level out remaining material in the bin and add finished compost or other favorable worm bedding.

¹ **Greens-** Materials that are rich in *nitrogen* (Examples: fruits, vegetables, green leaves, green plant clippings, coffee grounds, etc.)

² **Browns-** Materials that are rich in *carbon*. (Examples: dry crunchy leaves, twigs, mulch, napkins, shredded cardboard or paper, straw, sawdust, junk mail, paper plates, coffee filters, etc.)

General Tips!

Watering Tips

- It's better for the soil to be a little too wet than a little too dry.
- Check moisture level in a couple of different places; the surface and outer edges tend to dry out faster than the center.
- Use a spray bottle or an upcycled plastic bottle with a perforated lid to water the worms. This will give you more control and ensure you don't add too much water too fast.

Feeding Tips

- As you're getting started, stick to fruits and veggies. They're easy for the worms to break down and tend to have the mildest odor out of all your feed options.
- Worms have crops similar to chickens! Meaning, they need grit in their food to aid their digestion. To ensure they have enough grit add a light sprinkle of ground eggshells or coffee grounds between the greens and browns layers each time you feed.
- Do not add any meat, dairy, or oils. While worms will eat meat and dairy products, it is best not to feed these materials or oily foods due to potential odor and pest problems.
- Avoid feeding spicy or acidic foods. These tend to overpower small habitats and make an uncomfortable space for the worms.
- *What worms eat quickly:* blended or chopped up food waste, food that has already begun the decomposition process, food with grit, and food buried just below soil level.
- *What worms eat slowly:* hard foods like avocado pits that take a long time to begin to break down, fibrous foods like banana peels and watermelon rinds take a long time to break down, food piled above soil level, food during the winter and summer seasons in which worms naturally slow down and tend to eat less.

How to Apply Castings

- Once you've harvested your castings the best way to use them is to sprinkle and/or massage them into the soil of any plant and then water them in. I have yet to meet a plant that did not appreciate the added boost of biology. If you have a layer of mulch on top of your soil, push that aside before adding castings.

Troubleshooting

- If the bin starts to smell, you have probably overwatered or overfed.
 - If you've overwatered→try gently mixing in dry browns.
 - If you've overfed→ try taking half of the food out and cover with dry browns.
- Mites naturally coexist with worms, but in large populations can be harmful to them.
 - If you begin to see high numbers in their population, place a slice of bread in the bin, and most of the mites should migrate on to it. Once they do, take the bread away from your bin and put it in direct sunlight.
- If you have any issues with fungus gnats or fruit flies, it is most likely due to too much moisture or too much food. The fix is adding an inch or so layer of dry browns over the top of the bin and taking out excess food until flies subside.
- The solution to most problems is adding more browns! If that doesn't do it, give us a call!