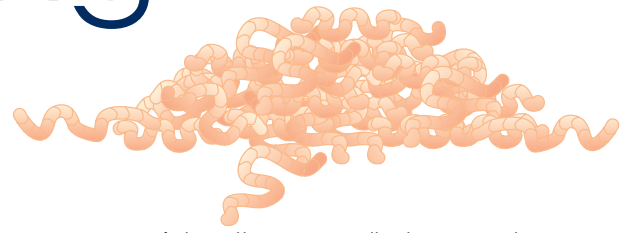


Worm Farming



Feeding your unwanted fruit and vegetable scraps to compost worms (a type of earthworm) is a cheap and simple way of recycling your organic waste, and reducing the waste that you send to landfill. Half of the waste that you throw away each week is "organic waste," or food and garden waste. With the help of compost worms living in a worm farm these organic materials can be recycled. Worm farms are compact and ideal for people living in flats or houses with small backyards, or for recycling lunch scraps at school or the office.

Worm Facts

Compost worms are a special type of earthworm and are generally more active than normal earthworms, and can eat about half their body weight in one day.

The population in a well maintained worm farm doubles every two to three months.

Earthworms are hermaphrodites, which means each worm has female and male sex organs, so every worm can have babies. But reproduction can only occur between two mature worms of the same species.

After mating, both earthworms form a capsule (or cocoon) containing up to 20 eggs. Even though each mature compost worm might mate every 7 to 10 days and produce about 4 to 20 capsules a week, only 3 of these capsules produce babies. Each capsule produces around 4 baby worms, which makes a total of 12 babies per adult per week.

Babies hatch after about 30 days and are ready to breed 55 to 70 days later. Earthworm eggs can survive in very dry conditions for a long time. The babies usually hatch when the soil becomes moist.

Although earthworms do not have eyes, they sense light as well as vibrations and temperature through special sensors in their skin.

You can also add compost worms to standard compost bins or heaps, as long as you do not let the contents of the bin get too hot, OR, you can feed your compost worms, in the worm farm, the decomposed compost from your compost bin or heap.

Worm farms use special earthworms called compost worms that eat decomposing organic materials, along with small quantities of soil. Inside their small slender stomachs, the soil assists in grinding up the organic materials, so that when it comes out as castings, it is essentially soil. The most common compost worms are Red Tiger Worms, Blue Wiggler Worms, African Nightcrawler Worms and Indian Blue Worms.

What You Will Need to Build a Simple Worm Farm

- **A container for the worm farm.** There are many types of suitable containers for keeping worms, from simple polystyrene or wooden boxes from the fruit shop to stackable worm farms and plastic worm factories (such as the Reln Worm Farm systems), which can be purchased. If you are making your own worm farm, you must ensure that the container holding the worms has numerous small drainage holes in the bottom, and some type of a tray to sit the worm container on, so that the worm juice can drain out and be collected from the tray.
- **At least 1,000 compost worms.** Access a local worm farmer to purchase your worms, as they will be much healthier. When you buy your 1000 worms they will come complete with worm bedding to live in. This worm bedding is a mixture of worm castings, compost and manure, which is an ideal mixture to begin your worm farm.
- **A suitably sized liner,** such as a piece of cardboard, to line the bottom of the worm farm before you put the worms in.
- **A suitably sized cover,** such as a hessian sack, old rag or piece of cardboard, to cover your worms and worm bedding in the worm farm.
- **A lid for the worm farm,** to keep the worm farm dark and moist, and to keep predators and pests out.
- **Fruit and vegetable scraps** from your kitchen, and some garden waste, to feed your worms.

Method

1. Choose a protected shady spot in your backyard to locate your worm farm. If you are using a ReIn Worm Farm system, aim to position the worm farm on a slight slope, so that the juice from the bottom tray will drain towards the tap. Leave the tap on to allow the juice to continuously drain out, which also allows air to circulate through the bottom of the worm farm (make sure you put a bucket underneath to catch the worm juice).
2. Line the container your worms will live in (the one with the drainage holes) with a cut to size piece of cardboard. Over time this liner will break down and be eaten by the worms, however, it serves to prevent the worm bedding from falling into the juice-collecting tray.
3. Empty your 1000 worms and worm bedding into your worm farm container and spread it out evenly. Do not squash it down, as that will push air out of the bedding.
4. Use your worm farm lid to cut your hessian sack, old rag, or piece of cardboard cover to size. Soak the cover in water to dampen it, then place it on top of the worm bedding. This cover helps to keep the worm farm moist.
5. Put the lid onto your worm farm to cover it completely and let your worm farm sit.
6. Add fruit and vegetable scraps twice per week by taking the lid off, lifting the cover, and placing the food directly on the bedding. Rotate where you deposit the food each time, so that you are always giving the worms a fresh food option. Add a small amount of food in the first week and over 6 months gradually increase the amount. If uneaten food remains, then you know you have overfed the worms.
7. Fruit and vegetable scraps are about 90% water and 10% solid food. This means that your worm farm will produce a lot of juice and not a lot of castings. Once a month you will need to give your worms a good feed of manure (from plant-eating animals ONLY) or well-decomposed compost, as this food contains less water and more solid content. This is what will help to build up castings in your worm farm.
8. If needed, dampen your worm bedding and the bedding cover every week – do not over saturate. It is very important to keep your worm farm moist to ensure that the worms do not dry out. If you water it too heavily, you will compact the castings and worms, and wash them down into the juice-collecting tray.
9. As the worms recycle your organic waste they will produce castings, which will build up in your worm bedding. As the castings build up, you will need to introduce another container to go on top of your existing one. Take the lid off, remove the cover from the bedding, place the new container (also with drainage holes) on top of the bedding, and begin feeding your worms inside the new container. Place the cover over the food in the new container and put the lid on it. The worms will move up to this container to feed and begin producing castings here. Over time, as the castings are produced, the worms will move up and live in this new container. When there is a sufficient population of worms living in the new container, you can take away the old container and empty it out onto the garden.
10. As the worms recycle your organic waste they will also produce a dark nutrient rich juice, which will drain out and collect in your tray underneath. Pour this juice into reusable glass or plastic containers to store it for further use in your garden. When you come to use this juice, you must dilute it 1 part juice to 10 parts water, and then spray it all over your garden – foliage, flowers and all!!

Troubleshooting Problems with your Worm Farm

The right worm food

Worms will eat almost anything organic. However, there are some foods that they do not like, and some things they find difficult to eat considering the size of their mouths.

Got a problem?

You need to make sure you have the right balance of organic materials, moisture and air to have a successful worm farm environment. If a problem does occur and you think you've found a solution, don't stop there. Continue to give your worms daily check-ups until you see an improvement. This may take some time to perfect so you may have to do a little problem solving when you first start. You may encounter some of the common problems listed below.

You can place the following in a worm farm:

- ✓ Fruit and vegetable trimmings (small scraps, not whole items)
- ✓ Grains, beans, or breads (without butter, margarine, or mayonnaise)
- ✓ Egg shells
- ✓ Fallen leaves
- ✓ Tea bags and coffee grounds and filters
- ✓ Shredded paper and card products
- ✓ Manure (plant-eating animal manure ONLY)
- ✓ Well decomposed compost

DO NOT place the following in a worm farm:

- ✗ Meat products
- ✗ Dairy products
- ✗ Oily products
- ✗ Acidic fruits and vegetables, such as lemons, oranges, onions and garlic

Problem	Causes	Solution
Strong, bad smell	Not enough air circulation	Fluff bedding Make sure bedding or compost is not blocking the airholes
	Too much food in bin	Feed worms less food and/or less often
	Improper food added	Remove meat, dairy, and oily products
	Anaerobic conditions	Add bedding to absorb moisture
Fruit flies	Food exposed	Cover food and bedding completely
	Too much food	Don't overfeed worms
Ant infestation	Dry conditions	Bedding may be too dry, so add water
		Immerse bin feet in liquid
Mite infestation	Mite population is high	Avoid adding foods with high moisture content, such as fruits and vegetables
Overly moist	Too much water added to bedding	Stop adding water
		Add paper to soak up extra moisture
	Too much food with high moisture content	Put in less fruit and vegetable waste Add a layer of manure or well-decomposed compost