

EASY WORM FARMING

Worms are the most amazing recyclers in the world.

Worm farms not only reduce waste to landfill, they turn your food scraps into rich organic fertilizers called worm castings and worm farm leachate (or worm juice). These rich soil conditioners are packed full of nutrients and will improve the health of your plants, fruits and vegetables.

Worm farms can be kept outside, inside, on a balcony or in a garage.



1. SET UP YOUR KITCHEN

Collect worm food in your kitchen compost bin. Smaller scraps are easier for the worms to digest more quickly, so chopping scraps into small pieces or blending with a little water can help quicken the process.

2. CHOOSE THE SITE

Worms need the right conditions in order to breed. Place your worm farm in a shaded and protected place away from direct sunlight and rain. Worms prefer temperatures of 10 – 30°C. The worm farm should also be convenient to access from the kitchen.

3. FIND HOUSING

A purpose-designed worm farm with stackable internal trays and a drainage system is the easiest to use and is widely available at hardware and gardening centres. However if you don't want to buy a worm farm, you can construct your own using polystyrene foam boxes, plastic tubs or buckets. There are many online tutorials with instructions for making your own worm farm.

4. WORM BEDDING

Before putting the worms and their bedding material in, line the first feeder tray with cardboard or newspaper cut to fit the base of the tray to stop the worms falling through to the drip tray and drowning. Worms will live in the bedding when they're not feeding on food scraps.

The plastic stackable worm farms bought from a shop contain a bedding block, which you need to soak in water and then spread across the feeder tray. Add the starter kit of worms, lie a moist piece of hessian, old towel or other well-ventilated natural material over the worms and then place the lid on top. Let the worms settle in for a week and don't feed them during this time.

If making your own worm farm, make some bedding about 15cm deep from a combination of finished compost and shredded wet newspaper or a coir block.



5.

MOVING THE WORMS IN

Worms are available from garden centres and hardware stores, though it is worth the effort to search online for local worm suppliers who generally supply freshly farmed worms at economical prices. Some community gardens also sell worms to raise funds for their activities.

Composting worms, also known as red wigglers or tiger worms, are different to earthworms as they live near the top soil. Earthworms from the garden will not survive in a worm farm as they prefer different living conditions which allow them to burrow into the lower layers of garden soil.

When purchasing your worms, it's good to get at least 1000 composting worms to start. The worms will double their population within a couple of months, and as they self-regulate their population, they will determine their own population for the size of the worm farm.



6.

FEEDING THE WORMS

Worms don't have teeth, so chopping food scraps into small pieces will help them to break it down quicker. Pull back the newspaper or hessian and spread a thin layer of food and veggie scraps (not citrus or onion) onto the bedding surface. Ensure that the newspaper or hessian is placed back over the top of the bedding and the lid is fitted back on top of the worm farm. After about a week, check to see if the food has been eaten and if so, add more food scraps as required.

WORMS LIKE

- Most fruit & veggie scraps
- Tea leaves & tea bags
- Coffee grounds
- Weeds & flowers
- Moist newspaper and cardboard
- Crushed egg shells
- Small amounts of bread & pasta

WORMS DON'T LIKE

- Citrus fruits
- Onion & garlic
- Chillies
- Meat & fish
- Dairy products
- Grass clippings
- Very oily or salty foods
- Animal droppings
- Glossy or bleached paper

TIP

Materials that are not suitable for the worm farm such as those listed above can go in the green organics bin along with garden waste for commercial composting.



7.

MAINTAINING THE WORM FARM

When starting out, monitor your worm farm at least once a week to check moisture and feed the worms. Make sure your worm farm remains moist like wrung-out sponge, is well-drained, covered and not acidic (which you can avoid by leaving out acidic foods such as citrus and onion). Worm farms are easy to look after – you will only need to spend a few hours three to four times a year maintaining the bedding and harvesting fertilisers.

When the first feeder tray is full, mound the castings up into a pile that touches the bottom of the new second feeder tray which will sit on top. This will allow the worms to move between the feeder trays. Add food scraps to the second feeder tray and cover with hessian or towel. As the upper tray fills up, you can harvest castings from the lower tray.

In 4 – 8 weeks you'll have worm castings and juice to use on your garden.



8.

HOW TO TELL WHEN THE CASTINGS ARE READY FOR HARVESTING

Characteristics of mature castings:

1. Dark brown in colour
2. Pleasant, earthy smell
3. Very fine soil-like texture
4. No identifiable food items



9.

HARVESTING FERTILISERS

SOLID CASTINGS – when the bedding or worm castings build up over a number of months, finished worm castings should be removed. The easiest way to separate the worms from the castings is using light. Place the bin or the castings in sunlight and give the worms ten minutes to burrow down away from the light. Carefully scrape the castings away from the top layer. Repeat this until a thin material remains containing all of the worms which can be returned to the worm farm with some new bedding and a fresh supply of food.

LIQUID (WORM JUICE) – will collect in the bottom tray. Simply open the tap at the bottom of your worm farm and drain out the liquid into a bucket or container.



10.

USING FERTILISERS

Worm castings application rates for vegetables

- Add 20-30% worm castings to potting soil mix or mix directly into the garden soil
- Place a handful of castings in bottom of hole when transplanting
- Seeds: place 1/8 layer of castings to bottom of planting trench
- Sprinkle 1cm worm castings around the bases of plants or lightly dig in, then water it in

Worm castings application rates for fruiting plants

- 100 grams worm castings per square metre

Application as a liquid fertilizer

The liquid or worm juice can be diluted with water, 1 part worm liquid to 10 parts water (to the colour of weak tea) and then applied using a watering can.

The solid worm castings can also be mixed with water. Dissolve a walnut-sized lump of castings in 10L water. This liquid mixture can be used as an excellent soil conditioner or leaf foliate spray. It also helps to control insects. Many people prefer this method of application.

11.

STORING FERTILISERS

Harvested castings should be kept moist and with access to air. Ziplock bags or buckets with fitted lids (with a few air holes punched around the top) are good containers to keep in a cool, dark place.

The amount of moisture is right when you can take a handful, squeeze it, and the mass just holds together. Any wetter and you'll need to dry it out a bit. If it's drier, simply spritz with a spray bottle or fine-mist from a hose and mix until the squeeze test succeeds. Suggested storage time is 2 - 3 months (always keeping tabs on moisture content) and must be stored out of UV light.

Suggested storage time for the worm juice in sealed bottles is 2 - 3 months.

The liquid worm juice stores well in sealed bottles.



12.

SOLVING COMMON PROBLEMS

BAD SMELL Worm farms can start to smell if the worm farm is too wet or too much food is being added. Only add more scraps when the worms have nearly finished the existing food. If the worm farm is too wet, add some shredded newspaper or egg carton to absorb moisture. Do not add citrus, onion, garlic or chillies.

WORMS TRYING TO ESCAPE There may be insufficient food or the worm farm could be too wet (which starves them of air), too dry or too hot. See above about smell if the worm farm is too wet. If too dry, add some water and restore moisture content to that of a wrung-out sponge. To cool the worm farm on hot days, add some small iceblocks or cool water and leave the tap open for air circulation and drainage. You can also place frozen food scraps in the worm farm. Also make sure the worm farm is adequately shaded or move it to a cooler location.

WORMS DYING This only happens if the worm farm is too dry or too hot. Monitor them regularly in the summer months to ensure they are in a cool position and the bedding is moist.

UNWANTED PESTS Ants may enter if the bedding is too dry or too acidic. Add some water and a small amount of garden lime.

Cockroaches, ants and slaters won't harm the worms but keeping a lid on the worm farm, a hessian or cloth cover over the bedding, and placing the worm farm legs in tubs of water can deter crawling insects from climbing up and in.

Vinegar flies or small white worms are harmless but if you have large numbers of these it indicates there is too much food and/or exposed food, and it is too acidic. To get rid of them, feed the worms less, sprinkle on a little garden lime or crushed egg shells and cover the scraps with an old towel or hessian.

SUMMER HOLIDAYS Worms can live for 4 weeks without fresh food. Put soaked shredded newspaper in the worm farm and leave it in a cool location, which could be somewhere outside or inside. Or in hot weather you can put the worms in a compost bin or worm tower where they can escape the heat underground. Also empty out any juice from the worm farm.

SOURCES

Worm Farming: Environmental Educator Fact Sheet, Department of Environment and Conservation, Waste Authority, WA.

Worm Farm Information Fact Sheet, City of Whitehorse, VIC.

Worm Farm Information Fact Sheet #2, City of Whitehorse, VIC.

A Beginner's Guide to Worm Farming, Foodwise, VIC.

FOR MORE INFORMATION

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