

Worm farming at school



Worm farming is used to break down organic matter, including fruit and vegetable scraps, into nutrient rich compost called castings that can be used as fertiliser on school vegetable gardens.



Worm farming prevents organic matter from ending up in landfill.



When organic matter is buried in landfill it undergoes anaerobic decomposition which results in the production of methane gas - a major contributor to global warming.

Types of worm farms

Modern worm farms are generally constructed of lightweight plastic with a series of stackable plastic trays. They can process up to 15 kg of fruit and vegetable scraps per month and are useful for small, off-site kindergartens.

Reusing a degassed fridge as a worm farm may work better for whole school use. This system provides a larger surface area which, when operating at full capacity, is capable of processing about 66 kg of fruit and vegetable scraps per month.



Four hundred students produce about 3–3.5 kg of fruit and vegetable scraps per day, or 66–70 kg per month, making a degassed fridge ideal for a school of this size.

For full details on how to set up a fridge worm farm, download the Waste Wise [fact sheet](#). Old bathtubs can be used in the same way as a degassed fridge.

Choosing worms

The worms used in a worm farm are not common garden earthworms; they are composting worms specifically bred for farming. It is recommended all worms are purchased from a local breeder to ensure they are healthy and well suited to the local environment. A quick online search will help locate composting worms in your area.

For more information about the Waste Wise Schools Program visit www.wasteauthority.wa.gov.au/programs/wws/





Feeding the worms

- Composting worms are capable of processing anything organic.
- Do not overfeed the worms. A deep layer of fruit and vegetable scraps can putrefy, resulting in unpleasant smells and an acidic environment.
- Fruit and vegetable scraps are high in nitrogen. Be sure to add a carbon component by feeding your worms shredded damp newspaper, straw or dry leaves as well.
- To maintain a balanced environment, do not use the following in a school worm farm:
 - o meat products
 - o dairy products
 - o white office paper
 - o bread
 - o citrus
 - o onions.

Castings

To harvest castings from a fridge or bathtub, place all food at one end of the worm farm. Within a week the worms will migrate to the food source, leaving behind mostly worm-free castings. Dig out the castings from the worm-free end of the worm farm and spread the leftover organic material and worms throughout the container.

When using castings on the garden, ensure they are turned into the soil as quickly as possible. If castings are left on the surface, beneficial bacteria will be killed by UV light from the sun.

Worm farm leachate

Worm farms must be kept as damp as a wrung out sponge. When you water a worm farm, the liquid percolates through the castings and collects in either the bottom tray of stackable worm farms, or the bucket at the base of a fridge or bathtub worm farm.

The leachate (liquid run-off) should be used immediately on the garden as it contains beneficial soil bacteria that will die if bottled for more than 48 hours. Dilute the leachate with water in a ratio of 10:1 and apply directly to the soil.

Troubleshooting

1. The worms are taking a long time to process the scraps.

It is a good idea to break up fruit and vegetable scraps before feeding them to worms as this enables them to decompose more quickly. This is easily achieved using a spade and a metal bucket. Place a few sheets of newspaper in the bottom of the bucket, add the scraps and use the spade to break them up.

2. My worm farm smells and a lot of wet, rotting fruit and vegetable scraps are sitting on the surface.

This can happen if the worms are overfed and the contents of the worm farm become acidic. To remedy this, remove the excess scraps, sprinkle the worm farm with dolomite lime and add carbon such as shredded, damp newspaper, dry leaves or straw.

3. There are tiny flies and other insects in my worm farm.

A worm farm will attract insects such as mites, tiny white worms (yeast worms), vinegar flies and other creatures from time to time. There is no need to worry as they do not usually cause any problems. However, most of these intruders prefer acidic conditions so adding some dolomite lime to the farm will make the environment less attractive. Adding plenty of newspaper will help to avoid acidic conditions as well because paper is alkaline.