

Introduction to **WORMFARMING**



WHAT IS WORM FARMING?

Worm farming is the keeping of worms in captivity and maintaining their optimum conditions to encourage breeding. Worm farming is not to be confused with composting. A compost system relies mostly on the activity of micro organisms to break material down and steps are taken to increase the temperature to heights of 60-70 degrees. Larger organisms, including worms, beetles and ants, will either leave or die in the compost when it gets too hot. For more information contact Council's Waste Education Officer for a brochure on composting.

WHAT TO PUT IN A WORM FARM

WORMS

Worms can be purchased from some nurseries and hardware stores or directly from a local breeder. You must use the right types of worms - red or tiger worms. Common garden earthworms are not suitable for a worm farm.

BEDDING

If the worm supplier does not provide enough bedding to line the bottom of the worm farm with at least 4cm layer, you can use lawn clippings and shredded newspaper. Potting mix is okay too.

FOOD SCRAPS

Worms eat dead and decomposing organic material. Novice farmers should avoid certain organic materials such as meat, dairy, grain and citrus. Also avoid large amounts of the same material. For instance, 1kg of rotten tomatoes may create an acidic environment that is toxic to the worms.

HOW MUCH DO YOU FEED THE WORMS?

Worms can eat half their weight everyday. 1000 worms weigh 250g, therefore if you start your worm farm with 1000 worms you should be able to add approximately 125g of food scraps per day, nearly 1kg per week. Remember that

the scraps need to be in a suitable state of decomposition. Worms 'suck' their food and will eat the material that is the most soft and slimy. Chopping it up or running it through a food processor will help speed up the process.

HOW OFTEN DO YOU FEED THE WORMS?

Once a week is best. If possible, it is better to store your scraps until the worms have finished eating the previous scraps. If storing rotting vegetables is a problem for you, try keeping them in a sealed container in the fridge.

WHAT IF YOU GO ON HOLIDAYS?

If you go away for an extended period of time, just leave a large wad of damp newspaper or an old damp cotton towel and the worms will feed off that quite happily.

VINEGAR FLIES?

Vinegar flies look like fruit flies and are often seen hovering around the fruit bowl. If you keep putting fresh scraps into the worm farm, which are not decomposed enough for the worms, then you will attract vinegar flies. They are harmless and, unlike fruit fly, they will not infect your fruit trees.

BAD SMELLS?

There should not be any noticeable odour coming from the

worm farm. An unpleasant smell indicates that the worms are not working or there is too much, or the wrong type of food in the farm. First check that there are plenty of worms moving through the food scraps. If not, check the conditions are cool, moist and dark. If the worms are active, gently poke around the food scraps and check for maggots. Maggots are harmless, however they indicate the presence of meat, dairy or bread, which may be causing the smell.

WHAT DO YOU GET OUT OF A WORM FARM?

Approximately 80% of what you feed to the worms will be turned into a liquid – often known as ‘worm juice’. The liquid can be diluted and used to fertilise gardens and lawns. It may also be sprayed directly onto foliage to give plants an instant boost. If you are making your own worm farm at home, make sure you include a hole near the bottom of the container to drain the liquid.

The remaining 20% of the food scraps is turned into ‘vermicast’ or ‘worm castings’. Vermicast is a dense, black-brown material that looks like mud. The worm castings build up relatively slowly and can remain in the container until it is taking up too much space.

GARDENERS USE VERMICAST AS A FERTILISER, FOR TOP DRESSING ON LAWNS, OR AS A MEDIUM FOR SEEDING AND PROPAGATING.

WORMS USE VERMICAST FOR LIVING IN AND LAYING THEIR EGGS IN.

To harvest the castings expose one half of the container to light. The worms will wriggle into the part of the container that is darkest and leave you with just the castings. **WARNING:** increased exposure to light will kill the worms so be careful when performing this operation. Be sure to leave a layer of castings, at least 4cm, in the container as this is the medium where worms lay their eggs. Worm eggs are contained within cocoons, which are brown or yellow and a bit bigger than fish eggs. Each cocoon has between 2 and 16 eggs but not all of the eggs will hatch. Generally your worms will double in number every few months depending on the season and environmental conditions.

HOW TO KEEP YOUR WORMS ALIVE

- Keep them COOL by storing the worm farm in the shade or indoors
- Keep MOIST by placing a damp cloth over the food scraps
- Keep them in darkness

HOW TO GET THE MOST FROM YOUR WORMS

- Only feed them once a week and leave them alone as much as possible
- Feed them food that is already breaking down
- Keep them away from citrus peel, onion and mould

TEMPERATURE

The temperature in the worm farm must stay in a range of 15 – 25 degrees. If the temperature in the worm farm rises

above 30°C, you need to cool it down immediately. The fastest way is to put the hose in and allow cool water to run through it. Make sure it drains freely or the worms will drown. Then relocate the worm farm to a cooler place. You won't need a thermometer to know it's too hot. The worm farm will have an unpleasant smell and all the worms will be huddled together in the coolest part of the box. In winter, cover the worm farm with a thick blanket, relocate to a warmer part of the garden or bring indoors.

MOISTURE

Worms breathe through their skin and their skin must be moist or they will die. They will also die if the moisture builds up so much that they are ‘swimming’ in the box. The dampness of a sponge that is wet but not dripping is a good example of what you must aim for. Keep a wet cotton or wool cloth over the food scraps as well as a lid on the box.

LIGHT

Worms are highly sensitive to light. As soon as the worm farm is exposed the worms will stop eating and start hiding. This interrupts their work. Continued exposure to light will kill them.

WHERE TO GET MORE INFORMATION

Websites

Department of Environment, Climate Change & Water NSW
<http://www.environment.nsw.gov.au/downtoearth/worm.htm>

Total Environment Centre

<http://www.safersolutions.org.au>

Books

Murphy, David (2005), *Organic Growing with Worms A Handbook for a Better Environment*, Viking

Rutherford, P & LaMonda (1996), *The Australian Compost and Worm Book*, Apollo

Windust, Allan (1997), *Worms Garden for You*, Allscape



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