

WORM FARMING (VERMICULTURE)

Australian households currently produce over two million tonnes of food and garden waste each year (approximately 145 kilograms per person). However, only about 200,000 tonnes (10%) are currently composted in home composting units or worm farms (Reln Plastics), leaving a lot of room for improvement in our waste reduction practices. While backyard composting is easy to do, this is only the case if you have enough space (for example, a backyard!). This is one reason why vermiculture, or worm farming, has become a popular alternative for apartment dwellers, as well as the fact worms convert organic waste to compost much faster than micro-organisms in compost heaps or bins. Vermiculture relates to the raising and production of earthworms and their by-products that create a natural fertiliser for gardens and indoor plants. Vermiculture can be done at home, through a wormfarm, or on a large commercial scale too (eg. Lismore City Council). Participating in vermiculture is an exciting and educational recycling venture.

In a worm farm, special compost worms eat large amounts of organic waste, including food scraps. This is then ground through their digestive systems and excreted to create what are called 'castings'. As worms also need to be kept in a moist environment, the juices, or 'tea' created from the worm farm can be diluted with water and used as an environmentally friendly liquid fertiliser while the castings make for a nutritious soil conditioner for your plants.

The benefits of vermiculture include:

- Disposal of your food and garden waste and diverting it from landfills and water treatment facilities
 - Providing houseplants with free worm 'tea' (fertiliser) and 'castings' (soil conditioner)
 - Ideal for people with little or no space
- Educational and entertaining for kids, helping to teach them about the carbon cycle and recycling.

WHAT CAN I DO?

The best kind of worms for composting are red worms, red wigglers or tiger worms. They are often found in old compost piles, but are different from the earthworms you would normally find in the ground. These worms have a big appetite, reproduce quickly, and thrive in confinement. They can eat more than their own weight in food every day! You can buy a commercial worm farm (check with your local Council or the yellow pages), build one or make a worm bed in your garden. When setting up a worm farm, choose a durable and vessel such as a polystyrene box, wooden box or crate typical dimensions for a worm box are 30cm deep, 60cm wide and 90 cm long. The box must have holes in the base to allow air in and for good drainage. Plus it needs a base or tray underneath to catch liquid or provide good drainage.

Firstly, thickly layer moist shredded newspaper into your bin and mix in some finished compost or soil. Spread a layer of crushed, moist leaves and/or lawn clippings on top (it is important that these have been soaked in water before adding), then add 1000 to 2000 red wiggler or tiger earthworms. The amount of worms you need will depend on the size of your bin and how many people's waste will be eaten by the worms. The websites listed below provide data on this, or ask other vermicomposters at <http://www.wormdigest.org/>. Place some damp newspaper on top of the bedding, covering with hessian, shade cloth or a similar material to keep the worm farm damp and dark. Ensure that air can flow in, while keeping light out.

Feed the worms fruit and vegetable scraps (except onions and citrus), cut into small pieces, so that they are easier to digest. Don't add too much at once. Give them more food only when they have eaten most of their precious meal. Worms also like items such as shredded and moistened cardboard, paper, tea bags, coffee grindings, pulp from the juicer, floor sweepings, hair and crushed egg shells. Worms least favourite foods include dairy products, butter and cheese, meat, fish, fat, bones, very oily foods, citrus, onions and garlic. Remember that worms only eat food that is dead and decaying and enjoy the art of vermiculture!

MORE INFORMATION

- <http://www.wormwoman.com> - comprehensive and passionate site on vermicomposting
- <http://www.wormsgalore.com.au/> - geared towards kids, this website contains fun facts and info on setting up a worm farm.
- <http://www.composters.com/docs/worms.html> - provides some great examples of the different systems used for housing and 'farming' worms.
- www.epa.nsw.gov.au/envirom/wormfarm.htm a simple guide to setting up a worm farm
- http://www.reln.com.au/html/bjs_guide.html - worm and worm farm info from a worm farm manufacturer. Includes interesting facts on worm history and biology
- <http://www.resource.nsw.gov.au/easyguides.htm> - an excellent resource for home worm farming easy to follow instructions and problem-solving
- http://www.liscity.nsw.gov.au/view_doc.asp?id=337&cat=101 - information on Tryton's vermiculture plant, which is dealing with organic waste collected from Lismore City Council

