



Zero Waste SA

# KNOW WORMS

Fact Sheet

**Worms are the ideal new age pet – they take up very little room, they don't smell unless they are 'sick', they don't cost a fortune in vet's fees and they turn food scraps into garden or pot plant fertiliser.**

Worms play a central role in organic waste recycling. Worms eat organic matter and their droppings are known as castings. Worm castings contain nitrogen, phosphorus and other plant nutrients in a rich natural organic fertiliser which improves soil structure and drainage.

Worms farms are the best way to recycle kitchen and organic waste into natural fertiliser. They take up so little room they are even suitable for small back yards or apartments.

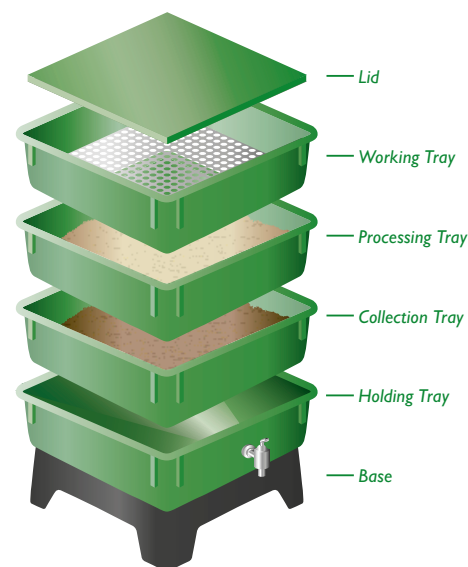
## What kinds of worms?

Compost earthworms, which go by such names as tiger worms, red wigglers and Indian blues, can tolerate the rich conditions of worm farms.

Ordinary garden earthworms do not do well in worm farms, as the concentration of organic matter is too high for them. In the garden, though, they also aerate the soil and their castings increase a soils ability to hold water and nutrients.

## Worm facts

- Earthworms are hermaphrodites but they still need a partner to reproduce.
- In favourable conditions, worms breed every 7–10 days and can double their population in 90 days.
- In South Australian trials, worm compost applied in vineyards led to increased yields.
- Worms are made almost entirely of water and breathe through their skins.



Breakdown of a typical worm farm system



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## Starting up

Plenty of ready-made stackable worm farms, and worms, are available from suppliers listed in the Yellow Pages [www.yellowpages.com.au](http://www.yellowpages.com.au) under 'Worm Farms', on the internet, or from some local councils and nurseries. Worm farms purchased from retail suppliers usually contain instructions, facts and handy hints to help you.

Making your own farm is not such a difficult task. Start with 1000 to 2000 worms.

Use clean boxes made from wood, styrofoam or other plastic materials, with lids and:

- punch small holes all over the sides and base for ventilation
- line the box with several sheets of newspaper
- line the newspaper with bedding made up of well-rotted moist compost:
  - shredded wet newspaper
  - dead leaves
  - straw
  - sawdust or peat moss
- water the box well but make sure the bedding is not soggy
- cover the top with dampened hessian or newspaper to keep the moisture in and light out, and put the lid on
- find a cool shady spot for the farm put the box on bricks or wooden blocks
- place a tray under it to catch excess liquid which can be used for fertiliser.

## What do worms eat?

- Fruit and vegetable scraps
- Bread
- Crushed egg shells
- Grains
- Pasta
- Tea leaves and bags
- Paper

### Sources

CSIROOnline. Earthworms [information sheet] [www.csiro.au](http://www.csiro.au)

Australian Worm Growers Association. Ecorecycle Victoria How to build a worm farm [www.ecorecycle.vic.gov.au](http://www.ecorecycle.vic.gov.au)

## What don't worms eat?

- citrus peels
- onions
- dairy products
- fats and oils
- meat and fish
- animal droppings

Collect scraps in a container in the kitchen. Feed the worms with small amounts of scraps daily, increasing the amount as they start to multiply.

Add enough water to make sure the farm does not dry out.

Collect the worm castings and use it in garden compost or add it to potting mix. Seeds may germinate in the castings from material placed in the worm farm.

After a few months the worm population will stabilise. Worm numbers will only continue grow with more food and enough space. At this stage you can start up a new farm by moving some of the worms to a new box.

## Troubleshooting in the worm farm

### Worms dying

- Too hot: Move to a cooler spot
- Too dry: Add water

### Worms trying to escape

- Insufficient material: Add more bedding
- Too dry: Moisten bedding
- Too wet: Mix food with bedding
- Too hot: Move to a cooler spot

### Worm farm smells

- Too much food: Mix food with bedding daily
- Not enough air: Leave the lid partially open and add more ventilation holes

- Feeding with wrong foods: Remove any meat or fats
- Worms have died due to very hot conditions: Move to a cooler spot and get more worms

## Who's got worms?

### Zero Waste SA

Worm farms can be just as at home in the office as they are in the backyard.

At Zero Waste SA, a worm farm sits in the corner of the kitchen as well as in the foyer, with well-fed worms cared for by enthusiastic staff. A roster system ensures all staff are involved.

In return, the worms consume over 100 kilograms of food scraps every year, converting the food waste to valuable compost and reducing the amount of waste Zero Waste SA sent to landfill.

### Adelaide Convention Centre

Every year Adelaide Convention Centre kitchens produce thousands of quality meals for delegates attending events.

Not all of it is eaten and the waste had been going to landfill, but now almost all food waste is put to good use.

With a gigantic worm farm in operation since mid-2008 more than seven tonnes of leftovers have been turned into castings, which are mixed with recycled paper to produce rich compost.

## About Zero Waste SA

The goal of Zero Waste SA is to eliminate waste or its disposal by encouraging South Australians to:

- Reduce their consumption of wasteful resources
- reuse and recycle materials.

[www.zerowaste.sa.gov.au](http://www.zerowaste.sa.gov.au)

Revised June 2011 • FIS 91096



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