

## Wormeries

Composting using worms in a wormery is called vermicomposting. Worms used in vermicomposting are red worms (*Eisenia foetida*) which are also called brandling worms or tiger worms. Never use worms dug from the garden. These are likely to be earth worms which are a different species that live in soil but will not thrive in the conditions found in a wormery.

Wormeries are particularly suitable for composting kitchen waste. Their resulting worm casts create fine textured, nutrient rich, high quality compost. Liquid feed can also be collected which can be used to feed houseplants if diluted with 10 parts water before use.

Worm composting differs from traditional composting as no heat stage is involved. The process requires careful maintenance to ensure the moisture and food levels are kept constant. Wormeries are self-contained systems and can be placed indoors or outdoors. In the winter months it is advisable to bring the wormery indoors to prevent the worms getting too cold. Favourable temperatures for wormeries are between 12 - 25°C.



## Getting started

- Whether you have a 'Can 'O' Worms' or 'Original' type wormery, the process of getting started is the same.
- First of all set up your wormery according to the manufacturers instructions. All wormeries have a sump with a tap to collect the liquid from the worm composting process. This is the first layer. The worms are started off in the second perforated layer by putting a layer of card or newspaper on top of the perforations, followed by a layer of compost (usually provided as part of the kit). The worms are then placed on this compost. If your wormery is new it is likely to arrive with a voucher to order free worms which can be sent off when you are ready to receive them. Alternatively, you can order them from companies such as Wiggly Wigglers or Recycleworks either online or by telephone. However it is cheaper to buy them from fishing tackle shops or get them for free from a friend's compost bin!
- Once you have placed the worms in the compost, leave the lid off the wormery until the worms have moved down into the compost. Composting worms are photosensitive so will do this with little prompting.

- Place a layer of food waste on top of the compost then replace the wormery lid. Leave the worms to become established to their new environment for about a week then start adding food waste regularly. Treat the worms like pets - feed them little and often.
- If you have a Can 'O' Worms wormery - once the first layer or tray is almost full add the second tray with a layer of food waste. This second tray should touch the contents of the first tray. The worms will work their way up into the new food waste layer in the second tray. Continue in this way until the worms have made their way into the third tray. The first tray can then be emptied of its compost and used as the next third tray.
- If you have an 'Original' type wormery - continue adding food waste regularly until the active worm layer almost reaches the top of the wormery.

## **Common Questions**

### **What will worms eat?**

Worms will eat more or less all food waste that isn't strongly acidic (e.g. citrus fruit, onions and rhubarb). However, since the food waste is likely to be around for a few days before/whilst it is being consumed, odours are likely to be generated. If fish and meat are being added, houseflies will be attracted to the waste. Therefore, it is best (particularly if the wormery is kept indoors) to limit the food waste to the following list.

- Fruit and vegetable peelings
- Tea bags and coffee grounds
- Crushed eggshells
- Cooked food scraps including pasta, potatoes and rice
- Hair and nail clippings
- Torn up or shredded paper and soaked card

Worms have a gizzard (like birds) and need fine grit to enable them to digest their food. You will need to add gritty material to the wormery and this includes coffee grounds or finely crushed eggshells. If your household does not produce coffee grounds then these can be obtained free of charge from café chains such as Starbucks.

### **What shouldn't I feed my worms?**

- Citrus fruit and onions – they are too acidic.
- Animal manures – they may contain chemicals designed to kill parasites that would kill the worms.
- Grass cuttings and garden waste – it may heat up and kill the worms.
- Bread – it goes mouldy too fast.

### **How should I feed my worms?**

It is important not to over feed the worms as they will be unable to eat all the waste and it will rot within the wormery. Start feeding with small quantities of food waste and gradually increase the amount as the worms mature and multiply (they take around three months to mature). You should also:

- Add the food to the surface of the bedding.
- Chop up food if possible.
- Feed the worms little and often.

### **How do I remove the worm compost?**

The materials will pass through the worms' bodies and become 'castings'. Compared with ordinary soil, the worm castings contain five times more nitrogen, seven times more phosphorous, and eleven times more potassium. They are also rich in humic acids and improve the structure of the soil.

It is best to empty the wormery in spring or summer and keep it full in winter to provide extra insulation. How you remove resulting worm compost depends on the type of wormery you have. To empty a bucket type or 'Original' wormery, remove the top layer of half rotted food containing the majority of worms. Harvest the bottom fully composted layers and either use or store. Replace the top layer containing the worms and begin feeding.

With a Can-O-Worms type wormery, empty the bottom layer when the top layer is full as most of the worms will have worked their way up to the top two layers.

### **How do I use my worm compost?**

Worm compost is very rich in nutrients and organic matter and can be used as an excellent growing media. It is rich in soluble plant foods and its fine texture will enhance soil structure. It is not necessary to sterilise the compost before using it - its bacterial content comprises beneficial species which will not harm plants. It can be used in all the situations where compost is normally used, for example for planting seeds, as a top dressing and as a soil improver.

### **What do I do with the liquid I drain off?**

Kitchen waste is made up of 80% water and as a result a by product of wormeries is a nutrient rich, liquid plant feed. This should be harvested regularly to avoid a build up and potentially drowning your worms. The liquid is a highly concentrated and must be diluted with 10 parts of water before use.

### **I have small white worms in my wormery what are they?**

You may notice other small white worms (pot worms or enchytraeids) in your worm bin from time to time. These are not harmful to you or your composting worms but if you find them unpleasant, they can be easily removed. Add a slice of bread and after an hour or two, the white worms will have gone into the bread which can then be removed and thrown to the birds who will enjoy both the worms and the bread. If you do get these worms, it is a sign that your bin may be too acidic. Just sprinkle on some lime (or crushed egg shells) to balance out the

pH. It is best if you can use the special worm lime – this is ordinary lime that has been seeded onto bran.

### **Is overfeeding a problem?**

It is better to feed worms too little than too much. They should be able to eat the waste before it goes mouldy.

### **What about extremes of temperature?**

Worms work at their best between 12 and 25 °C although they can withstand hotter and much colder conditions. Wormeries should not be allowed to freeze; frozen worms will survive but they won't breed. Wormeries should be brought indoor to avoid freezing. They can also be insulated with bubble wrap. In the summer months, wormeries should be placed in a shady spot and should not be allowed to dry out. Worms are photosensitive, they do not like light.

### **My wormery is very wet, is this a problem?**

Kitchen waste is made up of 80% water and as a result a by product of wormeries is a nutrient rich, liquid. This should be harvested regularly to avoid a build up and potentially drowning your worms. On some models it is possible to leave the tap open and allow the liquid to drain into a container continuously. Also it is important to add dry fibrous materials to your wormery, about 25%, such as torn up card, egg boxes, toilet roll tubes etc to soak up some of the moisture and ensure the worms receive fibre. The contents of the wormery should be about as wet as a freshly wrung sponge.

### **How much will my worms eat?**

This depends on how many worms you have and the conditions inside and outside your wormery. Worms can eat up to half their own body weight every day. If you start with 500g of worms they will consume up to 250g of food waste per day in ideal conditions. As your wormery becomes more established you will be able to add more waste as the worms breed and become more numerous.

### **Will I get too many worms?**

No, you can never have too many worms! They will regulate their population to the confines of available space and amount of food. Worm numbers should reach a peak of no more than 6,000 to 8,000 worms.

### **What if I go on holiday?**

A well established wormery can be left for a month before the worm numbers start to fall. If you are going away give your worms a good feed just before leaving. Leave the tap open while you are away to ensure the wormery does not get waterlogged.

### **My worms are trying to escape, what should I do?**

This could be an indication that the worms are not happy with the contents of the bin. It could be too wet, too dry or too acidic. Adjust whichever of these factors is at fault.

**Can I feed my worms citrus fruits?**

No these are to be avoided as they will cause acidic conditions within a wormery. Onions and rhubarb will do the same.

**Where can I buy composting worms?**

You can order them from companies such as Wiggly Wigglers or Recycleworks either online or by phone. It is however, cheaper to buy them from fishing tackle shops or get them for free from a friend's compost bin!