

### Do Worms Die In The Box?

Yes dead worm bodies decompose very quickly, because their bodies are between 75%-90% water. If you find many dead worms you should find out the cause.

### When It's Raining Why Do The Worms Like To Gather In The Lid?

You are observing the worms' sensitivity to pressure changes in the weather. They will often go up into the lid even before it rains, this would naturally take them out of the soil and prevent drowning during flooding, don't worry they will return to their food.

### What If I Go On Holiday?

Worm sitters will not be required when you go on holiday, as the worms will be happy munching away for a few weeks before they will need feeding again. If you have to go away for any length of time, add lots of shredded paper and cardboard to the wormery. Your worms will happily munch away on this.

### What Can I Feed Them?

Basically anything that has lived and died can be fed to your worms. The following are foods that worms like.

Vegetables, Fruits, Coffee, Tea Bags, Bread, Rice, Pasta, Flowers, Cereals, Crushed Egg Shells, Cakes, Cardboard, Paper, Pet/ Human Hair

The following foods should be given in very small amounts

Meat, Garlic, Onions, Citrus Fruits

The following shouldn't be given to your worms

Bones, Dairy Products, Oil, Soaps, Grass Cuttings, Insecticides / Pesticides.

Worms will also eat more if food waste is cut into small pieces.

### Can Worms Eat Animal Waste?

Yes - though certain rules apply

Rabbits / Guinea Pigs / Mice etc - Worms will eat bedding, straw and droppings

Chickens / Birds - Droppings very high in ammonia. Manure needs to age.

Horses - Make sure the manure has aged

Dogs / Cats - Worms love it! - Wait one week after using worming tablets.

**Warning** - Dog & Cat poo can contain harmful pathogens. Therefore any compost made should be buried away from vegetable patches and children's play areas.

Always wash your hands after using the compost or handling the worms.

Pregnant women should not empty litter trays or handle cat poo

### HELP All My Worms Are Escaping!!

When a wormery is first assembled this will probably happen on the first night and possibly upto a week. Basically a new wormery is a sterile environment that doesn't have the correct balance of bacteria and micro-organisms present, so the worms will try to escape.

The easiest way to settle the worms into their new home is to add a trowel full of used compost or garden soil - this will have lots of moulds, fungi and bacteria, and will get your new wormery off to the best possible start.

if you experience 'worm wander' the following tips should help

Leave the wormery in the box, or place inside a bin liner or put the single tray in a bin liner (remember to seal the top at night - and undo during the day) any worms that do escape, can be easily collected up and replaced into your wormery.

Leave a light on over the worms at night - Worms don't like light so will be less inclined to leave. it will only take a few days for your worms to settle in, and lose the urge to wander off.

Then they will happily stay in the wormery.

Often worms will go downwards into the sump and seem to prefer living down there.

Please don't worry about this, simply open the tap so any liquid can drain away, and crumple up a few sheets of newspaper. The worms can then live without the fear of drowning Eventually they will go back up into the composting trays

# www.WormCity.co.uk

## Don't Let Your Food Go To Waste

Email [sales@wormcity.co.uk](mailto:sales@wormcity.co.uk)

Tel 08000 141598



## Instructions For Setting Up Your Wormcity Wormery

### Housing Only Wormery



1 x Lid  
Part Number 1



1 x Drilled Tray  
(With Tap Hole)  
Part Number 2



1 x Drilled Lid  
With Tap hole  
Part Number 3



3/4/5 x Composting Trays  
(Mesh Bottom)  
(3 Trays=50 Litre 4 Trays=75 Litre  
5 Trays=100 Litre 6 Trays=125 Litre)  
Part Number 4



1 x Plastic Tap & Back Nut  
Part Number 5



2 x Bolts & Wing nuts  
Part Number 6

### Complete Wormery



1 x Coir Block



1 x Worm Food



1 x Bag Of Worms /  
Worm Voucher

**Handling Worms & Compost Does Not Pose Any Known Health Risks However In The Interests Of Good Hygiene Always Wash Your Hands After Handling**

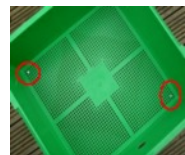
**NB Often The Lid And Drilled Lid Get Pushed Inside Each Other In Transit If Any Part Of Your Wormery Has Been Damaged Please Quote The Correct Part Number, So We Can Easily Replace It.**

1) Place the coir block into a large bucket or bowl. Pour 3 litres of warm water onto the coir and leave for approximately 30 min's. The coir will expand to 3 times its size and soak up all the water. Crumble up any remaining loose lumps of coir with a fork or your hands then squeeze out all the water. The coir should be damp, not dripping.



2) Place one of the composting trays on the ground with the mesh facing upwards (handles to the side)

3) Place the drilled tray (with the hole in one side) on top of it - with the mesh facing downwards. Align so they fit squarely



4) In one corner push one of the bolts provided through the mesh bottom, then holding the bolt in one hand, turn the unit over and screw the wing nut on the back to secure. Repeat at the opposite corner. Your wormery should now look like picture 3 (the top tray bolted onto the bottom tray)

5) Place the Drilled Lid (roof section with hole in side) upside down into the tray so that both holes match up. Gently push the tap through and secure with the plastic nut. This is where the liquid collects



6) Put your 1st tray in place so that it sits inside the sump, and cover the mesh base with a few sheets of newspaper - or cardboard cut to size.

7) Place the prepared coir on top of the newspaper / cardboard (If possible add a couple of handfuls of garden soil/ used compost to the mixture, as the soil contains the correct bacteria to get your wormery off to a great start)



8) Add your worms & A Handful If Worm Food

9) Add some damp (soaked and squeezed out) newspaper on the top (ripped up/ shredded) to a depth of 2 inches. Put on the lid **DONE!** (You are only using one tray)



Watch out for worm wander see **HELP all my worms are escaping** Further on for tips on how to make your worms feel at home, and stop wandering on their first night. If you would like to see a video of how to put your wormery together please visit

[www.wormcity.co.uk/setup.htm](http://www.wormcity.co.uk/setup.htm) or

Check out our forum [www.wormeryforum.co.uk](http://www.wormeryforum.co.uk)

### How Does It Work ?

Your worms are now setting up home in the first composting tray which you will be putting your food waste into. When this tray is full you add the next tray on top, fill with waste, then add the next, until all the trays are in use and stacked on top of one another.

The worms will eat all the food in the bottom tray and change it to vermicompost. The holes in the bottom of each tray allow the worms to move **upwards** in search of new food. Remember - its the worms that move - NOT the compost

### What Is Growing In My Worm Bin?

You may occasionally notice patches of mould in your worm bin. Moulds and fungi are a natural part of the composting process, helping to break down the food waste.

Vegetables may sprout

in your bin because of all the nutrients present. These things will eventually be consumed by the worms and other organisms.

### What Are The Other Creatures In My Worm Bin?

Once your worm bin has been going for a while, you may notice other creatures like white worms, springtail's, and tiny white spider mites in your bin. This is normal; these creatures will not hurt your worms and they help the composting process.

**Ants** - Ants in the wormery are a good indication that the wormery is too dry. Dampen the compost and fork the nest regularly, the ants should soon move out. If the ants don't leave try the following.

Smear some petroleum jelly (like Vaseline) around the base, this will stop the worms getting up the side.

Move the wormery, Ants follow paths, if the path is broken the ant won't be able to find it. Ants feast on fungi, seeds and small insects, and are attracted by sweet fruit juice..

**Bacteria** - One of the smallest and most numerous organism in the Wormery. Bacteria are responsible for most of the decomposition.

**Beetles** - Beetles often eat earthworms and other insects so should be removed.

**Centipedes** - A Centipede's body has 15 or more segments with one pair of legs on each segment.

Centipedes eat small worms, insect larvae, newly hatched earthworms, and spiders. If you find them it is best to try and remove them.

**Fruit Flies** - Very small brown flies. They won't harm the worms but can be a bit of a nuisance, as when you open up your wormery, a cloud of them appear.

Obviously they are attracted to the vegetable matter so eradicating them is virtually impossible. There are however a few steps to bring them under control. 1) Try to bury your food, the fly's lay their eggs on the food, so if its under a layer of compost, they wont be able to get to it. 2) Put a covering over the food like a carpet cut to size, again this will help keep the flies at bay. Or make sure all vegetation is buried by at least 2.5 cm of shredded paper .

The fruit flies eggs often get into your wormery on the fruit / vegetable peelings. Boiling, freezing or microwaving can help solve the problem (and help the vegetables compost quicker).

Flies can be trapped in a jar with a holed lid, and filled with a sweet fruity liquid.

**Millipedes** - Millipedes eat decaying matter. Aids composting

**Mould / Fungi** - As food starts to decay it may get covered in mould or fungi. helps with the decomposition - very good in a wormery

**Nematodes** - tiny transparent microscopic worms. Nematodes are very beneficial in a wormery. It has been estimated that a rotting apple contains 90,000. Nematodes feed on bacteria and fungi.

**Pot worms** - Small threadlike white worms, likes slightly acidic conditions, aids composting

**Slugs / Snails** - Some species are beneficial - however some species will eat earthworms. therefore remove from the wormery

**Mites** - Small white / red mites that can appear overnight in their hundreds - They like moist conditions, and may be an indication that your wormery is too wet. Add dry newspaper.

Aids composting

**Spiders** - Generally not a problem (will eat the flies !)

**Springtail's** - Springtail's are small wingless insects that jump when disturbed, they have a small spring-like structure under the belly that catapults them into the air. Springtail's feed on fungi. - aids composting

**Woodlice** - Woodlice chew up waste and expel it like worms, an interesting fact is that woodlice eat their own faeces as they need the copper it contains. Aids composting

## Can I Collect The Worms From My Garden For A Wormery?

No! There are many species of worms that are native in the UK, however not all of them are 'composting' worms. Compost worms differ from garden worms in that composting worms live and feed near the surface whereas garden worms (lobs) are deep burrowers.

There are two main types of composting worms.

1) Dendrobaena (Eisenia Hortensis) This is the largest composting worm, and is reddish brown with stripes all over its body. This worm can tolerate acidic soils better than other species.

Dendras also have a preference for damper conditions. Its normal habitat is the forest floor.

2) Tiger Worm (Eisenia Fetida). This worm is smaller than the Dendra above, and is usually found in manure heaps. It has a very distinctive stripy appearance hence its name.

These two species of worms are both fantastic for composting, and will happily live together

## Why Have I Been Given Worm Food?

Your worms have been fed on the supplied food in their worm farm. It will help them settle down quickly. It has also been said that the ingredients in the food (cereals) will make your worms grow and breed quicker.

## How Much Waste Will The System Compost?

Worms can eat up to half their own body weight every day and can double their population every 90-120 days. A tray will take approximately 4 months (depending on season etc) to become compost

## How Will I Know If I Have Overfed The Worms?

Your bin will smell, if this is the case stop feeding, remove any sludgy soggy mess, mix in lots of damp cardboard and paper, and get some air into it.

## All The Food Has Gone Mouldy Will The Worms Eat It?

Yes, worms don't have teeth, so the food needs to start to break down so they can eat it.

## What Are All These Flies In The Wormery?

The flies you can see are probably fruit flies, they are smaller than the housefly (about 3mm in size) and have brownish bodies, and they won't harm the worms but can be a bit of a nuisance as when you open up your wormery a cloud of them appear. Obviously they are attracted to the vegetable matter so eradicating them is virtually impossible. There are however a few steps to bring them under control.

1) Try to bury your food, the flies lay their eggs on the food, so if it's under a layer of compost,

2) Put a covering over the food like a carpet cut to size or under a layer of damp newspaper,

## What Are These Tiny White Worms?

These are probably pot worms. They do a similar job as composting worms and are nothing to worry about; you will find them in most worm bins. They are very tolerant of waterlogged/ acidic Conditions.

If their numbers rise dramatically it may be an indication that the wormery is getting acidic or too wet. Mixing in some shredded newspaper will help. You can also add a sprinkling of eggshells to correct the acidity.

Newly hatched brandling worms are also whitish and only half an inch long. You can distinguish them from pot worms by their blood vessel which gives a pinkish tinge

## If A Worm Is Cut In Two, Will It Grow Back?

It depends on where the cut took place. If a worm is cut at the posterior end, sometimes a new tail will grow back on. Sometimes a second tail will appear next to a damaged tail. However, the posterior half of the worm can't grow a new anterior (head.)

## How Do They Grind Food?

Worms can only take small particles in their small mouths. Micro organisms help soften the food before the worms can eat it. Worms have a muscular gizzard. Small parts of food mixed with some grinding material such as sand, topsoil or limestone is ingested. The contractions from the muscles in the gizzard compress those particles against each other, mix it with fluid, and grind it to smaller pieces

## Feeding

The biggest mistake that people make when starting off a new wormery is to overfeed the worms; this could result in creating a poisonous environment, and ultimately kill them.

Worms need time to settle into their new home and left to acclimatise to their new surroundings.

Therefore we advise that new worms should be left for two weeks before you start to feed them.

A small handful of the supplied worm food once a week will give them all the nutrition they need.

The coir block bedding that you may have been supplied with, is a perfect bedding medium, however it is very pure, which is why we suggest that a trowel of used compost / soil should be added when setting up.

This will immediately introduce various moulds, bacterias and creatures into the wormery and will make your worms feel 'at home'

When you start to feed them, we suggest that you begin by giving them a small handful every other day (chopped up into small pieces), and place it in each corner sequentially; you should see the worms feeding on the older food first. (Worms like it slightly mouldy) If after a week you see none of the food gone then stop feeding until you see the food being eaten. This will ensure that your food doesn't go rotten and poison the worms in the initial stages. If they eat it all then you know to put in more food.

## Looking After Your Worms

Your worms have been sent in the bedding that they have been living and breeding in. This bedding may contain worm eggs (look out for small yellow lemon shaped eggs) babies and adults. The eggs grow darker as the worms grow inside and can hold between 2 and 5 babies.

It takes approximately 3 weeks for your wormery to become established. Your worms will soon start to breed - the more worms, the more you can feed them.

Please be aware that in the winter months your worms won't feed or breed as much due to the cold weather, so care should be taken not to overfeed. In the winter if it is really cold (below freezing every night), it might be worth bringing your wormery into a garage or shed, or if this isn't possible try making an insulated coat out of bubble wrap, and wrapping it around your wormery. Cardboard, carpet and paper also make great insulators. Similarly in the summer keep your wormery away from direct sunlight, as you don't want to cook your worms.

Worms like the temperature to be between 10-25 degrees centigrade, and feed and breed best between these temperatures.

Worms need air to live, they breathe through their skin, so it's imperative that they get as much air as possible. A great tip is to add lots of shredded newspaper and corrugated cardboard (egg cartons are excellent) to your wormery as this creates small air pockets.

Worms love damp shredded paper, and from our experience, you can never have enough!

Worms also need grit to help with their digestion, crushed dried egg shells work brilliantly, or add a handful of sand and sprinkle over the contents occasionally.

If you place egg shells on a baking tray whilst cooking, this will dry them out, and make them easier to break up.

Always remember to bury your food under damp (not soaking) newspaper that is about 1-2 inches deep, this keeps the wormery moist and dark and keeps those annoying fruit flies away.

You may be eager to empty the liquid from the sump. **Please don't worry if it takes ages to appear (it can take months)** again it all depends on how wet your wormery is and what you put in it.

Because the composting trays stack inside each other, rain will penetrate the lower levels, Please do not worry about this, rain water will not kill the worms.

Depending on how many composting trays are in use, it may be beneficial to open the tap to allow the rainwater to disperse.

## Adding Extra Trays

When your first (current) tray is nearly full (about 2 inches from the top), you can add the next composting tray.

Dig down into the bottom of your current composting tray and see if you can find any black compost, if there is take a small handful and place it at the bottom of the new tray. This will give the worms something familiar to move up into.

Remove the newspaper from the top of your current tray and put that into the new tray

Always cover any food in the top tray with newspaper - to keep flies at bay.

Do not worry that there is a gap around the edge, your worms will not escape. The gap will slowly get smaller as the trays sink down into each other.

Repeat this process until all your composting trays are in operation, hopefully by the time they are all full your worms should have finished eating on the bottom layer and are moving upwards in search of more food.

### All About Worms

Worms can eat half their own weight of waste each day. They are photosensitive (don't like light) and can live up to 2 - 3 years.

**Body** – A worm has an Anterior end (head) and a Posterior end (tail) and has 5 hearts.

If you look closely you will see many rings around the body called segments. Each segment has 4 pairs of hairs protruding from it called Setae, which help the worm to stop.

When the worm has reached about a month old, it will produce a light coloured raised band near the head called a Clitellum. The Clitellum tells us that the worm has reached sexual maturity, and is responsible for the formation of the cocoon containing the eggs.

**Mouth** – On the tip of the head there is a flap of skin called the prostomium which stops things going into the worms' mouth. Underneath the prostomium is the mouth. A worm's mouth is big enough to grab a leaf and drag it around. Worms do not have teeth

**Eyes** - Worms don't have eyes. They are very sensitive to bright light. They will try to hide as soon as exposed

**Movement** – Worms have muscles all round their bodies, and others that run the length of their bodies. When the circular muscles tighten up, the body becomes thinner and longer.

This movement squeezes their front end forward The other long muscles squeeze together and help move the rear end of the body towards the front end

**Breathing** - Worms do not have lungs but take in oxygen through their skin and it goes straight into their bloodstream. The skin must stay wet in order for the oxygen to pass through it, but they can drown if they are in too much water.

**Reproduction** – A Worm is a hermaphrodite (both male and female) When mating 2 worms join together with heads pointing in opposite directions. Sperm is passed from one worm to the other and stored in sacs. Then a cocoon forms on each of them on the clitellum.

As they back out of the narrowing cocoons, eggs and sperm are deposited in the cocoon.

The cocoon closes and fertilization takes place. The cocoons are much smaller than a grain of rice and are yellow. Each cocoon can have 1-5 eggs. If conditions are not right for hatching, such as dryness, cocoons can lay dormant for years and hatch when conditions are right.

Worms mature in about 3 -6 weeks after hatching from cocoons and will breed every 3-4 days throughout the spring through to autumn.

Fresh worm eggs look very much like tiny lemons that darken in colour as the worms grow in the eggs. The colour changes from pale yellow to mid brown.

Each egg takes around 3 weeks to develop before the baby worms' hatch. Baby worms are white and each egg holds around six babies.

Worms self-regulate their population to the confines of available space and the amount of food you give them. From egg to maturity takes approximately 3 months

### Does It Matter Where I Keep My Wormery?

It can be kept almost anywhere. Worms prefer a temperature of between 12C to 25C. They are best kept where the temperature doesn't vary too widely; a shed or garage is suitable and they don't require light. They can also be kept outdoors so long as they are kept in a sheltered position away from strong winds, and out of direct sunlight. In the winter its advisable to insulate the bin, the easiest way to do this is to cover with bubble wrap.

### Does The Wormery Smell?

A normal wormery should smell earthy. Bad smells arise when food is allowed to rot; and becomes Anaerobic (bacteria that doesn't need oxygen to live) worms work quickly enough to prevent this by eating the micro-organisms that cause decay. If it starts to smell you can help by getting your rubber gloves on and stirring up any uneaten food as this allows the oxygen to penetrate. Stop feeding the worms, add cardboard and if you have a really horrible smelly mess, it might be advisable to remove the rotten food, as it could poison your worms.

### Why Are My Worms In The Lid?

If you find that your worms are on the lid or stuck to the sides (anywhere except in the compost) its possible that your wormery has gone acidic or anaerobic. Worms do not like these conditions and they are trying to escape.

You should mix up the contents to introduce some oxygen. Check the waste you have put in, onions and citrus fruit can irritate the worms skin, then add lots of shredded cardboard

A great neutraliser if you have an acidic wormery is crushed egg shells, as worms love the grittiness and it also helps the worms grind up the food in their stomachs

Other possible causes are foods that are overheating (like bread) or conditions that are too wet, too dry or too hot

### My Worms Have All Died

Unfortunately this does sometimes happen and it can be difficult to understand why. Here are some common reasons.

1) Too much food. - do not overfeed your worms, the food will just rot completely and possibly poison your worms

2) Too hot / cold / wet sometimes with the extreme British weather it can cause a problem.

Try to site your wormery away from direct sunlight, and away from strong winds. leave the tap open, and maybe insulate with newspaper or carpet placed on the top of the food

3) Insecticides / Pesticides - make sure that nothing comes in contact with your wormery, beware of cut flowers, some have been treated

4) Wrong foods, refer to the list provided as to what to feed them

5) No air – If your wormery starts to smell, use a spade or your hands to give the contents a mix up. If you wormery is inside, then leave the lid off. Also add lots of damp shredded paper and cardboard, to create air pockets.

### Wormery Liquid

Your wormery has a sump to collect any liquid residue. (Leachate) As the liquid passes through the bin it becomes charged with nutrients and therefore makes an excellent plant feed.

**It can take many months to get any liquid**, as it is all dependent on what is placed in the wormery. Obviously vegetables will produce more water than bread. And if you use lots of paper, this will mop up any residues as well. Dilute any liquid with 10 parts water and use it to feed your plants for free!

### Using The Vermicompost

The compost that is produced by the worms is called vermicompost and is very high in nutrients (vermicompost contains 10,000 times the amount of bacteria and microbes than normal compost and is high in phosphates, nitrogen and potassium) therefore you will need to use it sparingly. Add it as a top dressing, or sprinkle some around the plant roots, to give them a real Boost