

## Traditional Home Composter (plastic dalek)



Can be used to compost  
uncooked food, green garden waste and brown waste.

A 50:50 ratio of **green** material to **brown** material is needed.

The 220 litre composter has a 740mm diameter and a height of 900mm.

## Traditional Wooden Composter (2-bay system)



Can be used to compost

uncooked food, green garden waste and brown waste.

A 50:50 ratio of **green** material to **brown** material is needed.

Each slot-together 564 litre compost bin is 78cm in height and measures 93cm square.

# Traditional Home Composting

**Buying or Making a Composter:** Traditional composters can be bought from DIY shops or they can be made using unwanted items:



## a) Using wire mesh and fence posts

Use three or four fence posts and some wire mesh to create a composting enclosure. Consider creating two – one for leaves and one for traditional composting.

## b) Modifying a dust-bin

An old black dustbin can be reused to make a compost bin by drilling some holes in the bottom and placing it on a few bricks, for drainage and ventilation. It's much cheaper than buying a new compost bin but just as efficient.



## c) Reusing some corrugated iron

Use corrugated iron to create a pair of composting bays. Place two next to each other so that one compost bay can be filled while the other bay composts down.



## d) Re-using Timber for a Wooden Bin

Create a timber-frame using wooden pallets, planks of wood or an unwanted box. The front panels should be removable to give easier access. Line the inside with black polythene and create a lid from old pallet wood to keep the temperature up. Ideally, place two side by side so that one bay can be filled while the other composts down.



## The best place to site the compost bin

- make it accessible all year round
- Ideally put it on bare soil or grass – to make it easier for worms and other insects to enter the bin (these help to break down the garden and food waste)
- To help the composting process, put it out of excessive sunlight and shelter it from the wind



- Avoid putting it next to a hedge or a wall in a quiet corner of the garden because this might encourage rodents. Instead site it somewhere in the garden where you regularly visit.

## How to Begin

- Layer 15cm/6inches of 'brown materials' (branches, twigs) to help air circulate and speed up the composting process
- To create the best compost, add an equal mixture of **brown** and **green** materials

## How long it will take to make compost?

Between 6 and 18 months - but this will depend on:

- i) the type and quantity of materials in the bin
- ii) the time of year
- iii) how often the compost is turned (to let air in)



## Contents

Yes please	No thanks
Raw fruit and vegetable scraps	Cooked food
Coffee grounds	Dog or cat faeces
Tea bags / tea leaves	Meat
Eggshells	Fish
Newspaper, shredded paper and soft cardboard (e.g. egg boxes, toilet roll tubes)	Bones
Cut flowers and garden plants (including grass)	Diseased plants
Vegetarian pet bedding	Disposable nappies
Dustpan and vacuum cleaner dust	Fat and oil
Junk mail (excluding plastics)	Coal and coke ash

### Activity:

The list above is not exhaustive – the composting game and the display boards show more examples of what can and cannot be composted in a traditional composter.

## How to look after the compost bin during winter

- Keep feeding it: In the kitchen, continue using the caddy throughout the winter months
- Outside, keep the compost bin warm:
  - i) keep the lid on the compost bin
  - ii) consider adding an old woolly jumper or a piece of carpet over the top of the compost so that it keeps the temperature up during the cold weather

### Activity:

Please help yourselves to a caddy for filling with your kitchen waste and bringing to your allotment, to put the contents in your composter.

## How to use the End Product

Once the compost looks like it does in the display tray, it is ready to use:

- a) as soil improver
- b) as a mulch for the plants
- c) as a plant feed
- d) to grow plants in (a growing media)

- It puts organic matter back in the soil
- It saves buying compost
- If you would normally buy peat-based compost, using your own compost bin will save the peat bogs
- It helps retain moisture in the soil

### Activity:

Please pass round the display tray of compost from my garden.

## Potential Problems & Solutions

**Question:** It isn't composting properly.

**Answer:**

- Too dry and dusty (water it)
- Too slimy or soggy (mix in more brown materials (cardboard, paper, twigs, etc))

**Question:** I think I've got mice or rats.

**Answer:**

- Avoid adding cooked food, meat, fish and dairy.
- Also consider moving the compost bin if it is in a quiet part of the garden.
- Consider standing the compost bin on a hard surface (such as paving slabs) or line the bottom with narrow-gauge metal mesh. A tight fitting lid will deter rodents, but compost suppliers also sell a plastic base-plate which can clip on the bottom of the compost bin, deterring anything from entering except worms and creepy crawlies.

**Remember:** A compost bin or compost heap can provide a habitat for hedgehogs and voles as well as insects.

**Remember:** Pests and diseases

A traditional compost bin or heap doesn't get hot enough to kill diseases (such as black-spot) so avoid adding any infected plants.

Also avoid adding couch grass - as even a small piece will spread and grow.

# Grass Cuttings

## Composting

Grass cuttings (a **green** material) can be composted, if it is mixed with enough **brown** material, such as shredded paper, cardboard, etc.

## But even better is Grass Cycling

- Grass Cycling is leaving finely cut grass clippings on the lawn after mowing.
- Helps grass to naturally break-down nutrients and moisture into the soil.
- The nitrogen, potash and potassium are excellent fertilisers for grass.
- Discourages weeds growing.
- Use a mulching mower OR set your mower to a higher frequency than normal so that the grass clippings are shorter for faster decomposition.

## Weeds

Some weeds are very useful for composting because of their contribution to soil fertility.

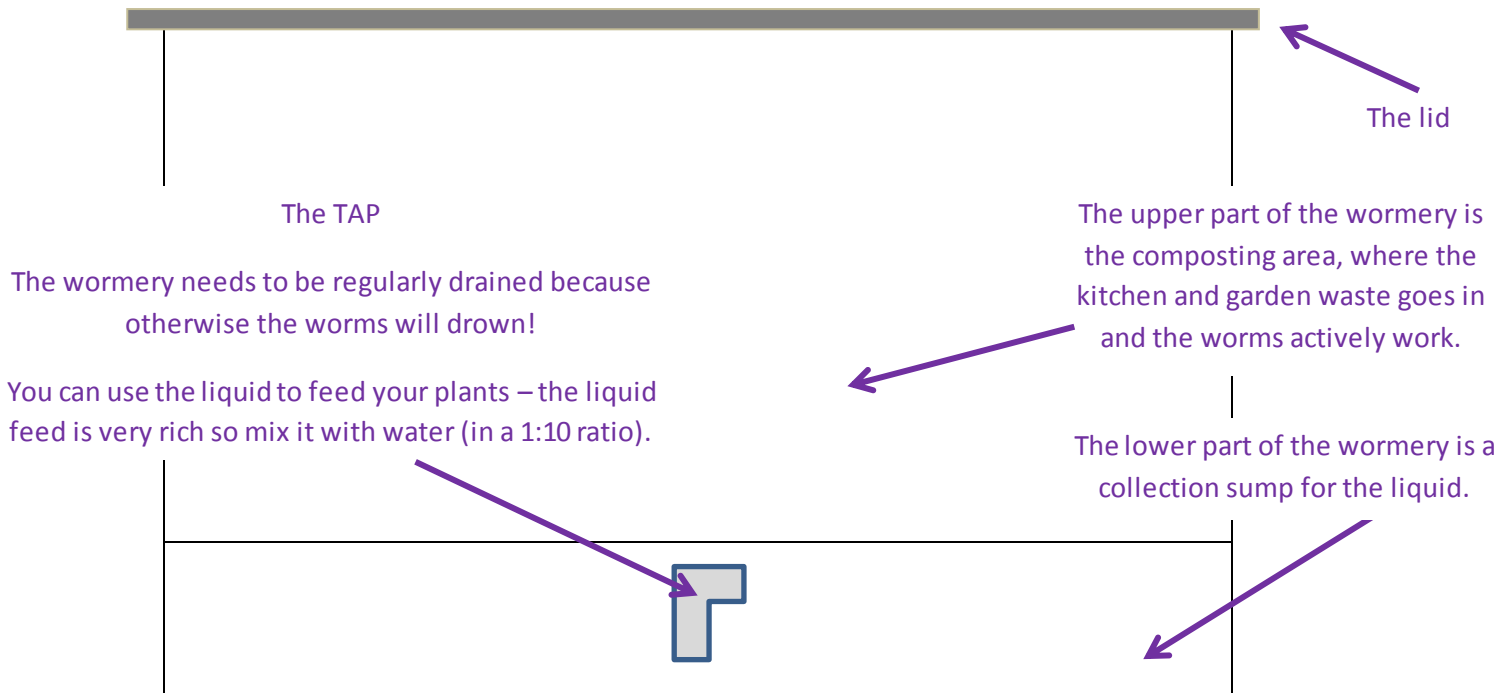
### Activity:

Please help yourselves to the hand-outs about weeds which can, or cannot, be composted.



## Wormeries

By using a wormery, you can turn kitchen waste and a small amount of garden waste into **compost** and a **liquid fertiliser**.



Some wormeries have drainage holes and/or only one compartment but it works in the same way.

A wormery should be a shallow container. The bigger the surface area, the faster the wormery works.

## Where to site the wormery and How to look after it

- Put the wormery in a sheltered part of the garden which is shady so that it won't dry out easily, and don't disturb it. Maybe keep it in the shed all year round.
  - Keep the wormery well ventilated.
  - All year round you must keep the worms warm (but not too hot – too hot is above 30 degrees Celsius), continually moist and in dark conditions.
  - So over winter, and when the temperature falls below 10 degrees Celsius in the garden, bring the wormery into a shed or garage so that they don't die, and so that they can maintain their activity. Try not to feed them quite as much 'worm food' as usual because their activity will slow down a bit in colder weather – but do keep the wormery going over the winter, and keep an eye on it and try to keep it as warm as possible:
    - a) with extra insulation of bubble wrap, a blanket or carpet around it
    - b) extra bedding and/or shredded paper inside to keep it warm
- And:
- c) try not to empty the wormery in the run up to winter because more content in the wormery will keep it warmer and reduce the risk of frost/it freezing).

## The layers of a wormery

SPACE

**SOAKED CARDBOARD** (or an old t-shirt or old towel) – place this on top before putting the **lid** on the wormery.

**BEDDING LAYER** – easily compostable matter – dead leaves, manure, straw, etc

Mix in extra strips of newspaper and soil/home-made compost/bought compost/coir (coconut fibres) to add 'body' to the compost mixture, making sure that it isn't too dry. It should be damp, like a rung-out flannel because this is where the worms will live.

**RELATIVELY DRY BOTTOM LAYER** – moistened newspaper covered with a layer of sand

and/or fine gravel or twigs.



When the wormery is set up as above, add the composting worms.

But at the same time, have the first container load of food ready for the worms. (About 1 litre of 'worm food' is recommended for 100 worms, when setting up. Empty any vegetable peelings and any garden waste material (such as grass clippings or weeds) into the wormery and bury it into the top of the bedding layer.

Don't put in more than 8-10cm of 'worm food' at one time. Little and often is better. The smaller the pieces, the easier it is for the worms to eat it. If there is lots of uneaten 'worm food' in the wormery, don't add more 'worm food' for a few days (or over feed them) until the existing amount has been eaten by them.

## The worms

Wormeries use composting worms (which are smaller and a darker red than earthworms). Composting worms live on decaying organic matter but earthworms are soil-dwellers.

**You can buy live composting worms** on the internet as soon as your wormery is installed and ready for use. The more worms, the more productive the wormery – perhaps start with 100 composting worms, ideally of at least two different species.

## The working wormery



Regularly top up the worms' food making sure that it is buried into the bedding layer. This makes sure that the worms have plenty of food. Over time, the worms will breed and the colony will grow. (Composting worms are very prolific).

## Contents

Worms like a varied diet, so put a mixture of foods together for them.

Add 20% - 30% carbon rich, brown matter (newspaper, cardboard, wood chips, etc.) as well as the food waste.

Wormeries are considered best for small households with only one or two people as the worms should not be overfed. But different sizes of wormeries are available, and several wormeries can be run at once, if enough space and 'worm food' is available.

If there is a lot of garden waste, which could overload the wormery, it is often best to have a traditional composter as well.

N. B. Fruit and vegetable scraps that contain seeds can be included but the seeds may germinate in the wormery.

## When to feed the wormery

- If you can see worms at the surface of the bedding, then the wormery needs feeding.
- If there are no worms at the surface of the bedding, then there is still plenty of 'worm food' amongst the bedding – so no more 'worm food' needs to be added yet.

An established wormery can be left without any food being added for up to a month, but the liquid fertiliser will still need to be drained to stop the worms from drowning.

<b>Yes please</b>	<b>No thanks</b>
Food scraps (e.g. vegetable peelings, pea pods, beans)	Lots of citrus peelings
Any raw vegetables, except for onions, shallots, leeks and garlic that are best used in small amounts or cooked first	Larger quantities of tough leaves and woodier material (as it will slow the system down)
Any cooked vegetables	Fat, grease
All fruit, except citrus peel, which needs to be limited or preferably cooked before adding	Dairy products
Garden waste (including annual weeds and leaves)	bones
shredded paper or Paper kitchen towels/cardboard/newspaper/egg boxes/toilet roll tubes torn into small pieces or use wood chip	Chunks of meat or fish
Egg shells	Not too many Onions and onion skins
small amounts of bread	strong-flavoured food scraps
Hair	Very spicy foods
wool	Oily foods
Tea bags / tea leaves	garlic
coffee grounds and nettles (for nitrogen)	glossy magazines
Fruit peelings including banana skins (for potassium)	Diseased plants
comfrey leaves (for potassium)	
Cereals (including the cereal 'dust' at the end of the cereal bag)	
Well-rotted horse manure or leaf mould	
Cooked foods (including pasta) and processed foods	

## A Year On...

Wormeries tend to get full of the worm compost after 8 to 12 months. The worms need to be removed from the compost before it can be used.

So...remove the top 20cm or so of food waste/bedding and put this to one side, to use in your 'new' wormery. This section is where the worms tend to gather.

Alternatively, some wormeries are built as stacking trays. The compost that is ready for use (and hasn't any longer got worms in) will be in the bottom tray. This tray can be emptied so that the compost can be used in the garden, and then the tray can be returned to the wormery - but put at the top of the stack.

The **worm compost** can be used as a general soil conditioner or as a constituent of homemade growing media. It is usually **rich in nitrogen and potassium**. Alternatively, it can be used as a fine potting compost.

# Hot Boxes

## What is a Hot Box?

A hot box is a wooden (or plastic) box, 1mx1mx1m in size and it has a solid base and a lid. It will hold 1000litres of material. It usually is designed with a removable section at the front, for easy access to the compost.

The size and the material that it is made from (usually hollow board) insulates the contents so that the material inside will compost down all year round.

The surface area and the warmth inside the Hot Box, makes it ideal for worms (even during cold winters). However, when composting food waste, it's important to keep the Hot Box system active for 12 months of the year.

The Hot Box is a general purpose composter, which generates compost and a liquid fertiliser. However, it composts the material faster than if composting bays are used.

## The worms

The worms will naturally enter the Hot Box and, also unlike in a wormery, the worms aren't at risk of drowning in the Hot Box.

N.B. The Hot Box can reach a temperature of 60 degrees Celsius. However, if it gets hotter than 65 degrees Celsius, remove the lid of the Hot Box so that it can cool down.

## How and Where to set up a Hot Box

- A Hot Box must be located on a flat, level site, ideally on paving slabs or other hard-standing.
- To start the process, put a layer of hay or woodchips (or newspaper) on the base, to soak up extra moisture or food waste seepage.



## How to empty a Hot Box when it gets full

- If possible, have two Hot Boxes available depending on the amount of food and garden waste available. This is so that:
  - i) One can be used first, filled and left.
  - ii) Then the second Hot Box can be used, whilst the other is completely full.
  - iii) By the time the second Hot Box is full, the first will be ready to empty.
- Alternatively, just have one Hot Box available:
  - i) When the Hot Box is full, take the lid off. The top layer of the Hot Box is the un-composted material, which is where the worms are located.
  - ii) This layer can be temporarily removed from the Hot Box and placed in a bucket (just for the time that the Hot Box is being emptied).
  - iii) The layer underneath will be compost and can be removed completely from the Hot Box.
  - iv) This compost can either be put into the traditional home composter for 2 months, to turn it into mulch for the garden. Or it can be put into the traditional home composter for 6 months, to turn it into compost that is suitable for potting up plants in.

## Contents

The materials that can be put in the Hot Box are exactly the same as in a traditional composter: kitchen waste, grass, hedge cuttings and manure. Add 50% **green** materials and 50% **brown** materials.

Some users of Hot Boxes also recommend adding woodchips.

N.B. The volume of waste decreases as the temperature rises. With the correct ratio of **green** material to **brown** material, Hot Box contents can reduce by 80% over 9 days.

Yes please	No thanks
Almost anything that is of vegetable origin can be composted and reduced into nutrients for micro-organisms and plants	There are some things that should not be added to an ordinary composter.  (Cooked food, meat, fish and bones are fine in Green Cones, Green Johannas and Bokashi Units).
Raw fruit and vegetable scraps	Cooked food
Coffee grounds	Dog or cat faeces
Tea bags	Meat
Eggshells	Fish
Soft cardboard (egg boxes, toilet roll tubes)	Bones
Cut flowers	Diseased plants
Vegetarian pet bedding	Disposable nappies
Dustpan and vacuum cleaner dust	Fat and oil
Junk mail (excluding plastics)	Coal and coke ash

## The Benefits

- i) The naturally-occurring microbes in the Hot Box generate a high temperature which kills seeds and pathogens.
- ii) The Hot Box will kill weeds and weed seeds
- iii) Tough fibres will be softened in the Hot Box
- iv) There is rapid decay inside the Hot Box
- v) A sterile compost is produced

## Reduce, Reuse, Recycle...

- It's unlikely that there will be waste collections at allotment sites so all waste has to be taken home:
  - Household Kerbside Recycling reminder
  - A-Z Recycling Guide
- A few ideas for reusing items:
  - Guttering is good to grow peas in
  - Egg boxes and polystyrene packaging can be used to grow seedlings and plants in
  - Use old windows for cold-frames
  - Use an old dust-bin or car tyres for growing potatoes in
  - Consider setting up an allotment-community exchange project in the main hut or in a shed on a spare allotment. To pass on unwanted but useful items, spare tools and extra plants and seeds.

### Activity:

Please help yourselves to the information about the Community Environment Challenge Fund.

## Any Questions?

- Waste Minimisation Officer, 01738 476476, [recycle@pkc.gov.uk](mailto:recycle@pkc.gov.uk)
- [www.pkc.gov.uk/composting](http://www.pkc.gov.uk/composting)

**Thank you**