

WASTE TABLE

Some waste is digested faster than others. The size of the pieces of waste also has an effect on the temperatures achieved by your **HOTBIN**.

N.B. When you have got your **HOTBIN** working efficiently at temperatures between 40 – 60°C there is no reason why you can't add things like chicken carcasses and bones into the **HOTBIN**.

A way to look at waste is how easy it is for the bacteria to decompose it.

Digestibility

EASY

to digest and will generate heat more quickly

Chicken pellets/poop
Grass
Blood/bone meal
Dried seaweed
All food waste including:
plate scrapings, all meat & fish
waste, pasta, rice, mouldy bread
and cakes

MEDIUM

to digest and will generate heat more slowly

Kitchen peelings
Straw
Manures
Office paper
Cardboard

HARD

to digest and will generate heat slowly

Sawdust & shavings
Wood chip
Twigs
Branches

Generating Warmth

Heat is released as bacteria decompose waste which is their food source. Little or no waste, equals little or no heat, which will not achieve hot composting.

Some wastes are easier to digest than others (see waste table above).

Bacteria are tiny and they digest waste at the cell wall touching the food surface. The smaller the waste, the higher the surface area for bacteria to attack.

No matter how much waste you have, bacteria are inactive when frozen cold and will not generate any heat.

Implications of Use

You need a minimum amount of waste to get going. The **HOTBIN** requires around 80 litres of waste to get started, which is about 40cm deep and should reach above the hatch door panel.

You need some easy to digest waste in your **HOTBIN** for the bacteria to generate heat.

We advise chopping up waste as it helps to speed up composting. It also results in the removal of less large non composted pieces from the final compost.

But don't worry the beauty is that you can get the **HOTBIN** working quickly in winter which means compost in spring! All you have to do to start the **HOTBIN** in winter (<10°C), is to add some heat; we have provided you with the winter 'kick- start' heater. It's a hot water bottle and keeps the bacteria cosy for 1-3 hours allowing them to become active again. This works in the **HOTBIN** due to its great insulation properties. Simply place the water bottle in the top of the waste and lay fresh waste over it.

Retaining Warmth

The **HOTBIN** ensures that less heat generated from the active bacteria is lost to the cooler surrounding atmosphere.

The thick insulated walls of the **HOTBIN** reduce conductive heat loss.

The **HOTBIN**'s aeration valve **Fig3** restricts convective heat loss.

Implications of Use

In a **HOTBIN** you can control the rate of this heat loss.

Ensure there is no damage to the walls e.g. gaps or holes that will allow heat out.

Ensure the valve is set to a minimum (but not closed flat) and always keep the lid tightly closed.

Oxygen

The **HOTBIN** relies on buoyancy airflow i.e. the chimney effect of hot air rising to the top towards the aeration valve and pulling cold air in at the base through the aeration mesh plate.

Air will not flow well through a 'solid' mushy layer of food or grass waste. Poor airflow results in a putrid/sour odour which is a common issue when adding food waste to most composting bins.

Implications of Use

The **HOTBIN** has an air inlet and an air outlet. If either is blocked, there will be no airflow. It is essential for a compost bin to have effective aeration.

When attempting to compost food waste such as meat, fish, cooked food, you must add a bulking agent. We have provided you with a bag to get you started but you can easily make your own.

Water

Bacteria need water to grow and to help with digestion reactions. Composting produces water.

If there is too much water the waste becomes soggy and air flow ceases.

If there is too little water the bacteria are unable to grow.

Implications of Use

The **HOTBIN** drives off any excess water as steam through the aeration valve. As the right amount of excess water leaves the **HOTBIN** it is actually quite difficult to create an anaerobic mess. And if by chance it does happen, it is easy to correct.

Watch out for any sour odours and be prepared to add more bulking agent and 'dry energy' such as pieces of chopped up cardboard.

It is very rare that you need to add water to the **HOTBIN**, in most cases just mix any dry waste with the existing top layer of waste or new waste you are adding.