The Joracomposter

An ecological revolution of your own

JORA
KOMPOST

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1. Introduction

Congratulations on purchasing your Jora composter. The private household can really contribute to creating a better solution to the current problem of waste disposal by composting with the JK 125 and JK 270.

Composting is an easy way to return organic matter to the soil. It conditions the soil and improves plant growth. By composting, you will help to reduce the amount of household waste going to landfill sites, and also reduce your own waste disposal costs.

For optimal use of your JK 125/270 composter:

- When you are sorting your kitchen waste, only add what you are sure is compostable. If you are hesitant about anything, don't put it in!
- Feed your waste into the machine every day or every other day. Don't put a week's worth of waste in all at once! A little and often is the best approach.
- Cut meat into small pieces, cut potatoes and fruit into a minimum of four parts, crumble up bread, tear tea bags, and tear egg cartons into small pieces. Cut flower stalks into 4-5 cm long pieces.

2. What Can I Compost?

Suitable for Composting	Unsuitable for Composting
Food scraps (raw, cooked, fried, and smoked)	Cigarette butts, ashes, snuff and tobacco
Meat – and bone	Chewing gum
Fish – and bone	Tinfoil and other metals
Shellfish	Rubber items
Vegetables	Cat litter (except wood-pellet based)
Eggs and egg shells	Vacuum cleaner bags
Potatoes	Envelopes, newspapers, or other heavily printed matter
Bread and biscuits	Any plastics, plastic bags
Fruit (every kind)	Milk or juice cartons (they are waxed)
Coffee grounds and filters	Cling film
Teabags and tealeaves	Pieces of coloured or treated wood (which will pollute the compost)
Household paper, paper bags (non-coloured)	Sacking
Serviettes (non-coloured)	Fire ashes, chalk, earth
Egg cartons	Liquids – milk, soup etc.
Sawdust from hamster/guinea pig cages	Disposable nappies
Flower waste from vases, pots, and terraces.	

3. Four Easy Steps to Starting your Jora 125/270 Composter

1. If you have any, place a small amount of active compost (or horse manure) into one of the empty chambers. (Always work with one chamber at a time). The process will usually start on its own without any help – it will just take a little longer.

2. Open the air vents slightly on the side being filled (the others should be closed).

3. Put your food waste into the first chamber on top of the active compost or horse manure followed by the wood pellets/sawdust in the correct ratio (see below).

4. Close the top door and rotate the unit once or twice.

Note: The compartment is full when there is 10cms of empty space left at the top of the chamber. Once full, the temperature in the first chamber will rise further and the contents will have finished composting by the time you have filled the second chamber.

Capacity

The unit has two compartments, and you should only fill one at a time.

The JK 125 can cope with up to around 12 litres/week of waste, and the JK 270 up to 30 litres/week. Note that the waste should be added to the unit frequently (every day or two) in small quantities - NOT in large quantities infrequently!.

Chop and Cut

For best results, all waste should be chopped into small pieces before it is put into the composter. **This is important, as it will greatly reduce the decomposition time of the waste.** Note that If you are particularly conscientious about the cutting-up and mixing, and monitor it closely, it is possible for the unit to cope with larger volumes of waste than those given above.

Add Wood Pellets (or Sawdust)

Wood pellets are added in the **Ratio 1:10 (Wood pellets : Waste)** by volume to add carbon and to absorb moisture. If using sawdust, the ratio needs to be 1:3 (sawdust to waste). Coir (coconut fibre) can also be used successfully.

Rotate the Unit

Rotating the unit draws air in through the air vents, preventing bad smells from occurring, and it also mixes wet and dry matter. After the heat has built up initially, ***the air vents should be fully open at all times.*** One turn of the unit with each new quantity of waste is sufficient to aerate the contents. Rotate the unit more frequently if the waste is very wet, to ensure even distribution of the sawdust or wood pellets.

4. What Not to Do!

- Don't let the waste get too wet in the composter. Waste should be drained in advance. Don't pour in milk, soup, or sauces.

- Don't add fire ashes, chalk or earth. They will slow down the decomposition process.

- Don't let the waste get too dry - moisture is necessary for the nourishment of the micro-organisms that break down the waste. When adding sawdust or wood pellets, be careful not to add too much at one time. They both have exceptional absorption properties and if the waste becomes too dry decomposition will be impeded and the mixture will form lumps. You will learn to recognise the correct consistency – the waste should be moist, not too wet, and not too dry!

If there are lumps in the contents, these can be broken up with an implement such as small hand trowel or fork.

5. Emptying the Unit

1. Open the filling hatch.

2. Put the steel plate over the compartment that you have just filled. To get this in place, the second hatch needs to be loosened.

3. Rotate the unit half a turn.

4. Scoop out the finished compost into a wheelbarrow or, if the unit is on the ground, onto a plastic sheet.



6. Tips & Tricks

Handy Accessories

- **A bin** with a lid next to the composter, for keeping sawdust or woodpellets dry and handy .

- **A three-tined small hand-rake or trowel** will be useful for breaking up lumps.

Positioning – Indoors or Outdoors?

Where you position your JK125/270 is simply a case of practicality. The unit can be sited indoors (garage or shed) or outdoors. If it is outdoors, it should be sited within easy reach of your kitchen regardless of weather conditions and, if you live in an area subject to prolonged and extreme cold wind conditions, try to reduce the wind chill factor by sheltering it with a fence or bushes.

The machine can be hung on a wall or stood on the ground. Note that if it is on the ground, make sure it is on a hard surface. If the unit is placed on soft ground it will very likely sink into it as you fill it up!

Pollutants

Bear in mind that if you wish to use the compost produced from your JK 125/270 to grow vegetables, do not add anything to the unit that will pollute the compost (e.g. sawdust from treated timber).

7. Additional Information

Temperature

Composting occurs at temperatures of between +2 to +78^{O}C. Different micro-organisms work at different temperature intervals. Higher temperatures give a higher degree of hygienic composting and are therefore more favourable.

With equal moisture distribution and oxygen configuration in the JK unit, plus continued addition of waste, the temperature will rise to at least 60-65^{O}C. You don't have to buy a thermometer, as you will see the steam rising from the contents. In fact, it can get too hot to bury your hand in it – should you wish to do so!

At higher temperatures and with a high pH, ammonia will be present in the steam. If there is a strong smell of ammonia, add a small amount of woodpellets or sawdust as the mixture is probably too wet.

Composting in Winter

If you are starting your JK 125/270 composter during winter months, and especially if you have small quantities of waste, it may help to add a hot water bottle to the first chamber to help generate the initial heat build-up (probably not necessary in most

parts of the UK!). Once natural heat has started to build-up from the composting process, the hot water bottle can be removed (e.g. 2 days). You may also wish to close the air vent when starting a new chamber for the first few days. Don't forget to open the vent 3-4 mm when the temperature starts to rise. When the chamber is full, the air vents should be full open to allow air to circulate inside.

What to Do with the Finished Compost

As a result of the high temperatures that have developed in the unit, the compost will be suitably hygienic for putting directly onto plant beds.

Since large bones and eggshells don't break down quickly, they will still be present in the compost. They can be picked out and disposed of if you are using the compost on houseplants or in your window boxes.

The compost will be very nourishing for plants. About 5 litres per square meter is enough for beds. For potting, mix 1 litre of compost with 5 litres of ordinary soil.

Materials unsuitable for moisture absorption

It is very important to add the right type of material to absorb moisture from organic waste. Problems with the composting process are almost always due to the absorbent material being too wet or too coarse to begin with, or an incorrect woodpellets to waste ratio. Do not use:

- Sawdust from wet wood (inadequate absorption properties).
- Turf (has a low pH that dampens the process).
- Wood shavings or chippings, which have long fibres that have inadequate absorption properties.
- Coarse-cut straw or hay (inadequate absorption).

The importance of sufficient aeration

The most suitable organisms for decomposition are oxygen breathers or "aerobes". There must be an adequate movement of air through the pile of waste to supply their needs. With insufficient oxygen, the mixture will start to rot.

The Joracomposter has been designed and constructed to allow "air conditioning" corresponding to weekly waste capacities. However, if the unit is overloaded with waste, there will not be enough oxygen in the mix and bad smells will develop.

The importance of proper mixing

One of the big advantages of the Jora Composters is how easy it is to mix the contents. By rotating the container the material gets aired, the moisture gets distributed, and new surfaces of the waste are exposed for the micro-organisms to digest.

Balancing the waste correctly

The addition of woodpellets/sawdust has three important functions. Micro-organisms need both carbon and nitrogen. For each part nitrogen (N) there needs to be 30 parts carbon (C). Green waste and food waste are very high in nitrogen. Therefore, carbon is needed to balance the waste. When you add dry woodpellets/sawdust, it

- absorbs moisture;
- adds structure to the finished compost; and
- provides a carbon source on which the micro-organisms feed.

Troubleshooting

How do I recognise when the mixture has the correct moisture level?

Take some of the compost mass in your hand (using rubber gloves if you wish) and squeeze it.

- If water runs down between your fingers, then it is too wet.
- If the heap doesn't hold together then it's too dry.
- If there are only a few drops then it is at the correct moisture level.

Temperature Troubleshoot

Problem	Reason	Remedy
Weak heat/ No heat	1. Too dry. 2. Too wet. 3. Winter wind chill factor.	1. Sprinkle some water over the mixture. 2. See "bad smells" below. 3. Don't empty everything out at emptying time. Open vents only 3-4 mm.
Maggots	Too wet/weak heat	Add dry woodpellets or sawdust and mix well. Put in a hot water bottle to help heat.
Mushrooms	Natural occurrence	None
Big lumps	Too wet	Add dry woodpellets or sawdust and mix well.

Bad Smells

If you experience an unpleasant smell from the unit, this may be due to one or all of the following reasons:

- There isn't enough air getting through the mixture
- And/or the waste is too wet
- And/or you have possibly filled the unit too quickly (filling the unit too quickly brings the temperature down and stops the decomposition process).

If the ratio of sawdust/woodpellets to waste is incorrect and the contents are too wet to break down:

- Make sure the vents are fully open;
- Add more sawdust/woodpellets;
- Rotate the unit several times to introduce more air through the mixture;
- If there are lumps in the mixture, break them up.

Smell	**Reasons**	**Remedies**
Ammonia	➢ Intensive process, high pH.	➢ Add some dry carbon additives. Mix.
Rotting	➢ Waste too wet ➢ Too little sawdust	➢ Add **dry** woodpellets or sawdust and mix well.
Pungent, acidy smell (cheesy)	➢ Oxygen deficiency - may be due to overfilling. ➢ Waste too wet! ➢ Sometimes occurs at the start of a new chamber cycle	➢ Empty out some waste, add dry woodpellets or sawdust and mix well. ➢ Add woodpellets or sawdust, mix well. ➢ Add some ready-made compost, mix well.

9 Overview of a Working Jora composter

Look inside your Jora Composter regularly!

- Heat should be present from within the first week of use.
- When you open the top door, if lumps have developed in the compost, break them apart with a hand rake.
- If the material is too dry, moisten it using water.
- Add the organic waste.
- Add the woodpellets in the correct ratio (1:10 pellets to waste)
- Close the lid and rotate the unit at least once.