COMPOST AT HOME

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Let's break it down

city of Rockingham

where the coast comes to life

The City of Rockingham has launched a Compost at Home initiative to encourage and assist residents in creating a home composting system. As a trial initiative, a limited number of compost bins have been made available for those willing to participate. While a range of different composting systems are available, two different types are being offered to participants. The amount of organic waste produced in your household and the availability of outdoor space will help determine the most suitable option for you.

This guideline has been developed to help break down all you need to know about composting at home, so you can break down your kitchen waste for the garden.

Let's break it down

Why compost?

Reduce waste to landfill

A recent report revealed that in Australia, over seven million tonnes of food waste ends up in landfills every year*. While food waste is a major issue and needs to be reduced, we can also help by diverting this waste from landfills. By reducing the waste to landfill, we can extend the lifespan of current landfills. In turn this will help to reduce land required for future additional landfills. To help minimise food waste, try to only buy what you need, and use up any leftovers.

**www.ozharvest.org/fightfoodwaste/*

Good for the environment

Each year 16.5 million tonnes CO^2e (mostly in the form of Methane) is released from food waste decomposing in landfill under anaerobic conditions. Methane is 26 times more potent than carbon dioxide as a greenhouse gas and is a significant contributor to global greenhouse gas emissions. By composting organic waste instead of landfilling it we can avoid methane production and instead create a nutrient rich soil product which will help to capture carbon from the atmosphere.

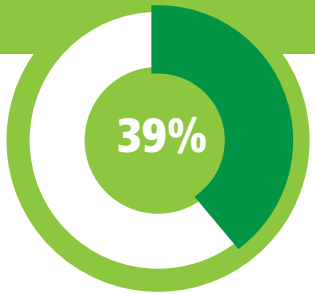
**www.agric.wa.gov.au/climate-change/composting-avoid-methane-production*

Good for your garden

Your garden will benefit from organic compost by feeding microorganisms and macroorganisms that maintain a healthy food web in the soil, enriching soil with nutrients for plant growth. Nutrients are released slowly and don't leach away quickly like some synthetic fertilisers do. Best of all, this won't cost you a cent.

- Note that native plants are adapted to local conditions and do not tolerate high nutrient soil or fertiliser.

Did you know that just over one third (39%) of our household rubbish is made up of food waste?



Which bin suits you?

Garden compost bin

Works by aerobic decomposition, creating heat.

- Requires roughly 50% 'green' waste and 50% 'brown' waste.
- Bread, meat and dairy products are not recommended.
- Can only handle small amounts of citrus and onion.
- Needs a suitable place on soil to place the compost bin.
- Can process a larger volume of materials.
- Produces a nutrient rich compost for your garden and plants.
- Some maintenance required.

Indoor composter

Uses anaerobic bacteria to ferment food waste into a readily decomposable form.

- Can process bread, meat and dairy (unlike composting, not suitable for garden organics).
- Requires an additive to speed up fermentation and somewhere to bury the fermented compost matter.
- Compact and sealed, and can be stored indoors. Not suitable for large large amounts of waste.
- Produces a nitrogen-rich liquid and semi solid fermented matter to boost soil nutrition.
- Easy to use, little room for error.

If you haven't used a home composting system before, don't let it be overwhelming. Follow the steps in this guide and before you know it, you'll have loads of nutrient rich compost ready to enrich your garden.


It also helps to suppress plant diseases and pests
Compost improves soil quality, water retention and garden vitality,
and reduces the need for chemical fertilisers, saving you money.

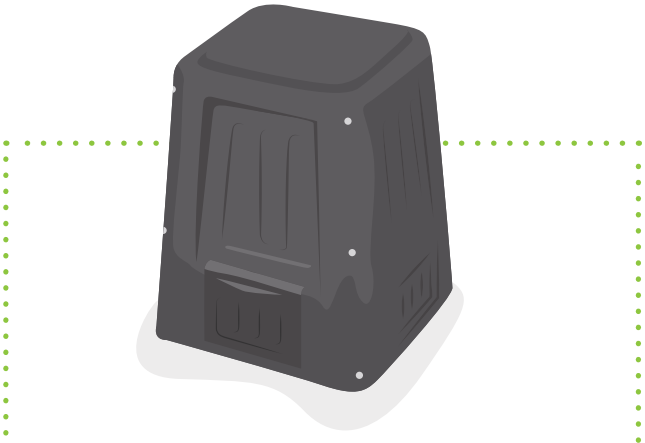
Composting reduces waste to landfill, helping to prevent greenhouse gases and leachate, which pollute the air and waterways.

Compost bin

How does composting work?

Composting is the natural process that transforms organic material into nutrient dense, carbon-containing, fibre rich soil. Under the appropriate conditions, microorganisms eat the organic matter and break it down via aerobic respiration. This process will create heat, which in turn helps to speed up the composting cycle. A healthy compost needs water, aeration (through turning or mixing) and a good balance of nitrogen and carbon containing materials.

While a range of different compost bins are available, the process is generally the same.



How long does it take?

This depends on what you put in it and how well it is managed. Typically a full cycle will take 6 - 12 weeks from the time the last scraps were added.

Under optimal conditions, a full composting cycle proceeds through three different phases. The first phase lasts just a few days, where there will be an explosive growth of essential bacteria and fungi. The second phase will last anywhere from a few days to a few months, depending on the size of the system. During this phase, temperature of the composting matter should reach at least 40 degrees and may reach up to 70 degrees. High temperatures are essential to kill off harmful pathogens. The third phase can take a couple of weeks or months and is essential for curing or maturation of the compost.

What can I put in my compost bin?

Healthy compost needs a good diet too. For a good balance, you should aim for 50/50 food scraps and garden waste. This can also be split into 'green' and 'brown' materials. Green materials are high in nitrogen and brown materials are high in carbon. You can also play around with this ratio, as some find that two parts green (nitrogen) to one part brown (carbon) works best. A well balanced mix will help to keep your heap healthy and thriving. See the list below for more information:

Green materials (nitrogen rich)
Fruit and vegetable scraps, egg shells, coffee grounds, tea leaves, grass clippings and seaweed.

Brown materials (carbon rich)
Dry leaves, twigs, newspaper/ shredded paper cardboard, straw and wood chips (untreated wood only).

Do not compost
Meat and bones, pet faeces, oils, fats and grease, pine needles, weeds and diseased plant matter, avoid large amounts of citrus.

Compost bin

Essential elements for a good compost

Air

Stir it up. Because compost is broken down by aerobic decomposition, fresh oxygen is required regularly. Every time you add new material to your compost pile, oxygenate your heap by tossing it with a shovel or using a compost aerator. Don't forget to do this once a week for the full 6 - 12 week composting cycle as well.

Moisture

Your compost matter should have the consistency of a good cookie batter (damp and sticky). A good test is to gather some mixture and squeeze it into a ball in your fist. The mixture should hold shape.

- If the mixture is too dry, you can add some water to dampen it just enough.
- If your mixture becomes too wet, you may need to stir your compost matter more frequently. You can also try adding a little dolomite, sawdust, shredded paper or straw.

Troubleshooting

- **Smelly compost?** Your compost is probably too wet. Trying aerating your heap more often and add more garden waste. You can also try sprinkling a little dolomite, garden lime, charcoal or ash.
- **Slow to break down?** Your compost is probably too dry or too cold. You may need to add a little water or try moving it into a warmer location. Make sure that when you're building your compost pile, you layer it with 'brown' and 'green' materials, just like you a lasagne. Avoid adding big piles of stuff.
- **Rats or mice?** Have you attracted some unwanted friends? They are probably attracted to the smell. Try the methods mentioned above to address the smell and your new residents should move out on their own. Avoid adding meat, eggs, grain or dairy. You can also reinforce the area around the base of your compost bin with chicken wire to deter pests.

Indoor composter

Urban or indoor composters are small, desktop sized containers that can be kept indoors or outdoors. Rather than needing aeration (oxygen) like traditional composters, these systems work via anaerobic decomposition (without oxygen). Enzymes, micro-organisms and anaerobic bacteria work to ferment organic materials inside the bin. After about three weeks, you should have rich liquid fertiliser and readily decomposable fermented semi-solids. The solids should then be dug into the ground or soil in your garden beds.

Using your indoor composting bin

- It is best to 'feed' your compost periodically, in layers of about 3 - 5cm each time. Keep your kitchen scraps aside in a caddy until you have enough to add to your indoor composting bucket.
- Chop your scraps into small chunks and layer into your urban composting bucket about 3 - 5cm thick.
- Add 4 - 5 sprays of enzyme accelerator (this is included with every urban composting kit).
- You can repeat the previous two steps if you have a lot of scraps (add spray after every layer).
- Compact the scraps down with a potato masher (or similar) to remove as much air as possible from the contents.
- Make sure you seal the bin with the lid fitted correctly. If fermenting scraps come into contact with too much air, they may rot aerobically instead of ferment anaerobically, slowing decomposition and producing an unpleasant smell.

Emptying your indoor composter bin

- When breaking down, scraps will produce a nitrogen rich liquid fertiliser. This should be drained via the tap on the side of your bucket once or twice a week.
- The liquid fertiliser is highly concentrated and should be diluted with 10L of water to one cup of fertilising liquid. It will be the colour of weak tea and can then be added to your plants. If you have too much, try gifting some to your friends or neighbours.
- Once you are ready to empty your bucket and the contents have fermented, dig the semi-solid matter in to at least 10cm of soil. As the matter is slightly acidic, ensure that it does not come intact contact with plant roots for at least 2 - 4 weeks.
- Wash the bucket and start again. It's a good idea to empty out your bucket every 3 - 4 weeks, even if it's not completely full. You may like to purchase a second urban composter if you produce a lot of food scraps. You can start to fill the second bucket if the first bucket is full, but still maturing.

What to put in your indoor composting bin

- ☑ Most food scraps (fruit and vegetables, meats, cheese, eggs, tea leaves, coffee grounds).
- ☑ Old flowers.
- ☑ Tissues.

What not to put in you indoor composter

- ☒ Large bones.
- ☒ Liquids.
- ☒ Garden waste.
- ☒ Pet faeces.

Indoor composter

Troubleshooting

- **White mould?** White mould is ok and means everything is working properly. This is just a by-product of the good bacteria growing.
- **Blue-green mould?** This is not a good sign as it means the waste is rotting instead of fermenting. If this happens, discard contents, wash bucket and start again.
- **Bad smells?** A healthy urban composting bin may have a mild acidic smell, similar to apple cider vinegar but should not be unpleasant. If your bin does smell unpleasant then empty out the contents, wash the bin and start again. Make sure it is in a cool dry place away from direct sunlight, liquid is being emptied via the tap at least once or twice a week, lid is tightly closed and enough enzyme accelerator is being applied.

Tips

- When working properly, the fermenting contents in your indoor composter should have a slight acidic smell, similar to apple cider vinegar.
- While heat will speed up the process of fermentation, it may also make the smell unpleasant. Keep your composting bucket away from direct sunlight, in a cool dry place. You can also keep your bucket outdoors, in a shady position.
- If you're going away for a few days or a week, you can happily leave your urban compost bucket to ferment. You may want to add a few extra sprays of enzyme accelerator and ensure the lid is tightly closed.
- The longer you leave your scraps to ferment, the quicker it will decompose once added to soil. Typically, the fermenting process will be fully completed after four weeks.

Conclusion

Composting your food and garden waste at home is a great way to improve your environmental footprint. By doing this, you're reducing your waste to landfill, reducing greenhouse gas emissions and creating an organic, nutrient rich fertiliser that your garden will love. You'll also set a great example to your peers and it's a great opportunity to get the kids involved.

As a part of this initiative, we are requesting your feedback on this program via a short online survey to be emailed after 12 months. For further information, check out the link on the City's website under "Compost at Home", or contact the City on **9528 0333** or **customer@rockingham.wa.gov.au.**

Don't forget to share the love by sending in your photos of you composting at home or post them on social media with the hashtag **#compostathome.**

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Printed on **recycled paper**

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