



Composting fact sheet

What is composting?

Composting is simply the method of breaking down waste organic materials (kitchen and garden waste) in a large container or heap. The decomposition occurs because of the action of naturally occurring bacteria and fungi. Small invertebrates, such as earthworms and millipedes, help to complete the process. Composting can convert kitchen and garden waste into dark coloured soil in a matter of a few weeks or months.

Composting has many benefits for the environment. It

- Saves valuable tipping space
- Can be used as fertiliser
- Improves the condition of soils.



How composting works

There is nothing mysterious or complicated about composting. Natural composting, or decomposition, occurs all the time in the natural world. Organic material, the remains of dead animals and plants, is broken down and consumed by decomposers (mainly bacteria and fungi) and eaten by small invertebrates.

The nutrients, that were once present in these remains, are returned to the soil or water, where they are able to support the growth of new plants. This is natural recycling.

In composting, provided the right conditions are present, the natural process of decay is speeded up. In these conditions, bacteria and fungi feed and multiply, giving off a great deal of heat. In well managed heaps, this temperature can reach as high as 60 degrees Celsius in the central core.

While the temperature remains high, invertebrates are not present in compost heaps, but when the temperature drops, the invertebrates enter the heap from the surrounding soil and complete the process of decomposition.

In a pile of mature compost, there may be a wide variety of invertebrates present. In fact there is a mini food web in action. Some creatures, such as springtails, millipedes, mites,



slugs and earthworms, feed on the partially broken down materials. Other creatures, such as spiders, centipedes and scorpions, prey on the plant feeders.

How to compost

Follow the ADAM principle for good compost.

Good compost comes from ALIVENESS, which is created by having DIVERSITY, a variety of materials, eg leaves, small sticks, twigs and food scraps, hair, dust, teabags, with AERATION to aid the process. Not enough air and the compost will become smelly, the right amount of MOISTURE, not too wet not too dry, is necessary for the compost to live.

ALIVENESS - Compost needs living organisms to break down the waste and release the minerals and nutrients needed to make rich soil-like compost. Each living organism in the compost has a different but important role to play in creating the right conditions for good compost. Some of the living organisms, such as bacteria, are too small for you to see. But they are still very important.

DIVERSITY- Compost needs lots of different ingredients to keep it healthy. Different ingredients make sure the compost has all the right minerals and nutrients. Anything that has lived once can live again in your compost.

AERATION- Compost needs air or it will become smelly. Turning the compost adds the air needed to ensure no bad smells.

MOISTURE- Compost needs water to live. It should be moist but not dripping with water.





Easy compost recipe

Ingredients

- Compost bin
- Broken up twigs, prunings, dry leaves, mulch, grass clippings, flowers
- Torn newspaper
- Food Scraps
- Hair
- Vacuum cleaner dust
- Finished compost (rich potting mix, soil, dynamic lifter, manure, straw etc)
- Water
- Hessian bag
- Air
- Compost turner (optional)

Method

1. Choose a position for the compost bin - things to consider when choosing a position;
 - Should be well drained
 - Sunny
 - Close to hose
 - Room for storage of mulch or woody materials
 - Room for storage of finished compost
2. Put a layer (10-15cm, about the width of four fingers) of coarse material (broken up sticks, twigs, prunings, dry leaves and newspaper) on the bottom of the heap. This allows air to flow through the heap.
3. Add a bucket of finished compost as a starter.
4. Add food scraps to the heap.
5. Add a layer of vegetation (mulch, leaves, etc). For every bucket of food scraps add two buckets of vegetation or other material. Continue until the bin is full, or alternatively you



can add material in any order depending when you have it available keeping the diversity principles in mind.

6. Add water, if necessary, to ensure enough moisture.

7. Add air by turning or stirring.

8. Cover with hessian bag – this helps retain the moisture and keeps out the flies.

When bin is full, **do not add any more food scraps**. Keep moist by adding water (if necessary) until no food scraps are visible and the compost smells fresh and earthy – this will take 8-12 weeks. Stirring the compost once a week (no more) will speed up the process.

It is now finished compost ready for use on the garden. You can set up another compost bin while this compost is cooking. So you have one active bin while the other is maturing its compost.

What to add to a compost heap

- Vegetable and fruit scraps
- Fallen leaves (in layers)
- Tea leaves and tea bags
- Coffee grounds
- Vacuum cleaner dust
- Soft stems
- Dead flowers
- Used vegetable cooking oil
- Egg shells
- Old Newspapers
- Grass cuttings in layers
- Sawdust (not from treated timber eg. treated pine)
- Wood ash



What NOT to add to a compost heap

- Meat and dairy products
- Diseased plants



- Metals, plastic, glass
- Animal manures (especially the droppings of cats and dogs)
- Fat
- Magazines
- Large branches
- Weeds that have seeds or underground stems
- Bread or cake (may attract mice)
- Bones
- Sawdust from treated timber (eg. treated pine)



Compost containers and heaps

There are many types of containers that you can use to compost at home. Some of these are:

- Plastic bins with ventilation holes or slits
- Plastic bins without ventilation
- Metal drums with holes punched in the side and with the base removed
- Rotating drum units (tumblers)
- Enclosures made from timber (planks or sleepers), bricks, or chicken wire.

If you prefer, you can make compost in open heaps, but they should be covered with either a plastic sheet or some hessian to prevent the heap from drying out in hot weather. You could even bury kitchen scraps in holes in garden beds.



Composting - Troubleshooting

Smelly compost

Three things could cause smelly compost:

- Too wet
- Not enough air
- Too much food, not enough
- "Other" materials

Fix it by

- Stirring in dry leaves, mulch or soil
- Turning the compost to get more air in
- Adding two or three handfuls of garden lime or dolomite
- Mixing food with shredded newspaper before adding to the bin

Unwelcome visitors

If ants, cockroaches, fly, mice or rats make your compost their home.

Fix it by

- Ensuring food is covered by vegetation /mulch
- Adding lime and turning the compost to discourage ants and cockroaches
- Keeping meat out of the compost
- Turning the compost regularly



Too dry

Compost should always be spongy, and squeezable.

Fix it by

- Adding water

Composting too slow

Usually happens if compost is too wet or too dry or too cold.

Fix it by

- Adding newspaper, and turning (if too wet)



- Adding water and turning (if too dry)
- Stirring in some dynamic lifter or old compost, or grass clippings

What about weeds?

Compost can kill weed seeds if hot enough, but it takes at least 60 degrees for 3 days.

An easier and safer way to dispose of weeds is to make a compost tea – put weeds in a bucket with water for 2-4 weeks. This increases the nitrogen and works as an activator to build up the heat then add to compost heap.

Alternatively weeds can go in the green lid bin.

Sources

- <http://www.medialaunch.com.au>, EcoRecycle Victoria web site & Good Compost Guide (Modified excerpts from Waste Matters by P. Armstrong and J. Laffin have been used).
- Hornsby Shire Council - *Composting and Worm Farming*. workshop book