

Waste & Recycling

Part 3j – Material Fact Sheets

Composting

A great way to turn waste into a useful resource is through composting. Fruit, vegetable and garden waste (including leaves and twigs, most weeds without persistent re-sprouting roots, unsprayed lawn-mowings) can all be placed into a compost bin or heap. Many people compost at home and some schools make compost too.

Between a third and a half of the average household waste volume could be composted, which is one of the easier ways to manage it. When this 'organic waste' is placed in a sealed landfill, without oxygen available, it breaks down and emits an unwanted greenhouse gas called methane (CH₄), which is much more potent in climate warming per molecule than carbon dioxide (CO₂), the gas released when similar organic waste is composted in air. Composting at home allows in air, so it makes less air pollution!

When organic waste is composted, the micro-organisms break the organic material down and the heat generated kills off potential diseases and some weed seeds.

As home or school composting tends to occur where the waste has been generated, this waste will not need to be transported, thus saving fuel and money



Plus, making compost is an excellent method of improving soil naturally, saving the need to purchase and transport a commercially-made compost.

Composting can take place at school and home using fruit, vegetables, tea bags, garden waste (e.g. leaves) and even paper towels. Remember, not everything is garden-compostable, including left-over cooked meat/fish and animal faeces, so avoid these, unless you use *EM Bokashi* sealed fermentation methods.

How to Make Compost

To produce good compost, the correct balance of materials needs to be used e.g. using too many fruit peelings and lawn clippings (high in nitrogen) without a balance of paper or wood shavings (high in carbon) will make the compost soggy and smelly!

So remember to use the following mix at all times:

- **Browns** – these are materials rich in carbon e.g. shredded paper, fallen leaves, thin cardboard scraps, hay and broken woody stems, untreated sawdust.
- **Greens** – these are nitrogen rich materials e.g. grass clippings (but avoid these if herbicide treated), tea bags, coffee grounds, vegetable and fruit peelings, soft weeds.

To assist with material breakdown, compost needs air - through occasionally turning the compost or by adding up scrunched up paper or torn card, and twigs, to help draw in air; this also has the advantage of preventing compost becoming too wet or dry. It will be necessary to moisten and turn to mix the contents of the compost bin or heap, keeping the materials exposed to oxygen in air as they decay.



Photo: An example of a home compost bin, made from interlocking timber planks. Target volume of a cubic metre.

Compost bins or heaps will become home to a variety of creatures including red worms, black beetles and woodlice, but don't worry, seeing these means the compost heap is healthy and these bugs assist with the breakdown of organic waste, along with fungi and tiny microorganisms from the soil.



Photo: A bokashi double-bucket unit, which can be used to compost both cooked and raw foods, including fish, meat and cheese. Read more:

<http://www.wanakawastebusters.co.nz/bokashi-buckets/>

Bokashi bran and bokashi compost bucket sets may be purchased at some Council transfer stations, or visit one of these mail order suppliers:

<http://www.zingbokashi.co.nz/product-category/zingbokashi-kits/>

<https://www.bokashiboost.co.nz/shop>

Suitable green/garden waste from transfer stations is shredded and composted on an industrial scale by some Councils, to prevent it being 'disposed of' in landfill (with consequent problems of methane gas and expense as managed landfill volume is costly!)



Example - Signage showing the types of green waste accepted for recycling at a transfer station. Certain weeds are not welcome! Acceptance of lawn mowings varies: weed-killer residues are the main source of anxiety.

Composting demonstrated in a Bottle

A fun and interactive way to learn about composting at school or home (on a small scale) is by 'composting in a bottle'; which can be done by following the steps below:



Step One – Use an empty three litre or larger plastic bottle to make a transparent compost bin. Cut most of the top off the bottle leaving a small part still attached to act as a hinge.

Step Two – Gather topsoil, newspaper scraps, grass cuttings, fruit and vegetable peelings. Place 2-3cm of soil in the bottle base, then add some dry leaves and grass.

Step Three – Add another layer of vegetable and / or fruit scraps and a layer of ripped up or shredded newspaper and repeat this process until the bottle is full, Moisten the contents, then close the bottle and tape it to retain contents but not exclude air.

Step Four – Mark the top of the compost level with a marker pen (date) and over the coming weeks record the changes which occur as the waste breaks down. Keep filled bottle in a shaded place, *not on a hot windowsill*.

Resources

- <http://www.wanakawastebusters.co.nz/hot-composting/>
- <http://nelson.govt.nz/environment/sustainability/sustainability-at-home/composting-3/>
- <https://www.stuff.co.nz/life-style/home-property/79600579/How-to-start-a-compost-heap>