SOUTH COAST ENVIRONMENT SOCIETY

$0.50

Riverton Organic Growers Fact Sheet | www.sces.org.nz

COMPOSTING

It's fun, easy and a great way to turn your household scraps into healthy soil.

Composting is a biological process that happens in every natural ecosystem. In a forest, bird and animal manures mix with leaves and twigs on the microorganism-rich forest floor. Broken branches and dead creatures are broken down relatively quickly in such a rich living system. Good compost can also be made in your 'backyard ecosystem' by mimicking these natural processes.

Around 30% of the waste in Southland's landfill is organic material that could be composted.

Compost will increase the water holding capacity of sandy soil, create a looser structure in clay soil and generally improve soil fertility. It recycles natural waste materials at practically no cost, and because the soil is so 'alive', nutrients are made available to plants by the action of the thousands of microorganisms, helping the gardener to produce an abundance of healthy plants which are resistant to diseases and pests: Healthy plants don't give out the hormones that unwell plants produce, so pests and diseases are less attracted to them.

INGREDIENTS

Virtually everything that has once lived will break down in the compost heap. Using the greatest possible variety of materials in the heap will ensure that the compost produced will have a good balance of plant nutrients. You will need a mixture of 'greens' (a source of protein for microorganisms) and 'browns' (a source of carbohydrates).

GREENS - Nitrogen rich, moist

Greens are materials that go soggy and smell if there is too much of it in one place:

Fresh grass clippings	Coffee grounds / tea leaves & bags	Garden weeds
Fruit and vegetable scraps	Animal manure (grass eaters only)	Seaweed

BROWNS - Carbon rich, dry

Browns are those that you could burn if left to dry out. Browns also help with aeration and absorption of moisture in the heap. Always start with a double layer of coarse browns (like twigs) for aeration.

Dry leaves	Egg cartons	Bark, untreated sawdust
Straw or hay	Twigs and sticks	Torn up newspaper/cardboard
Shredded tree prunings	Cotton rags (must be 100% natural)	

YOU CAN ALSO INCLUDE

Egg shells (slow to break down but contribute calcium); Rock dust (also slow to break down but can contribute minerals), Wood ash (contributes potassium, but only add a small amount at a time).

BUT DON'T INCLUDE:

Anything artificial (e.g. plastics);
Vacuum cleaner dust (likely to include microplastics from carpets and clothes);
Dog and cat poo (can contain pathogens harmful to human health);
Ashes from coal or treated timber (contain toxic residues like mercury, cadmium and arsenic);
Invasive weeds (e.g. couch grass /convolvulus which can spread around your garden);
Sprayed weeds (can contain persistent pesticide residues).

NOTE

You can include meat, bones, shells and dairy products, but be aware that they may attract vermin and can get pretty stinky. Putting these in the centre of the heap and including plenty of browns is the best approach to reduce odours. Weed seeds and diseased plants can be included, but only if you are sure your heap will get hot enough to kill them (see next page).

Avoid breathing in any dust from your compost: keep it moist to prevent spores and dust problems.

Wash your hands after working with compost.

COMPOSTING

'HOT' AND 'COLD' COMPOSTING

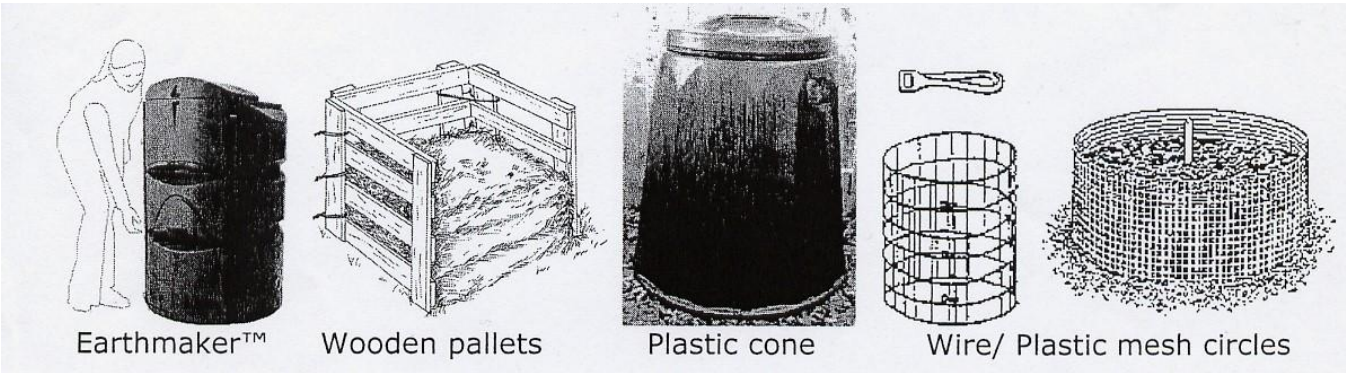
If your heap is built over a day or two you can get faster decomposition and it can take weeks rather than months to be ready to use. This is called a **'hot' compost**. It gets fast results and can kill weed seeds and plant diseases but also takes a lot more work and generates less compost overall than a 'cold' compost. **'Cold' compost** is made over a longer period of time so won't reach the temperatures of a hot heap. This means that weed seeds and plant diseases can survive, but it also means that there is more compost at the end (because as the microorganisms generate heat they also convert carbon into carbon dioxide, which is lost to the atmosphere). If you don't add diseased plant material or seeded weeds then **lack of heat is not an issue**.

In a hot compost, initially there will be an explosion of bacterial action, heating the heap to temperatures of up to 60°C. These bacteria feed on readily available nitrogen, mostly contained in green material. If you have added sufficient grass clippings, weeds, animal manure, seaweed, comfrey, nettles or blood and bone it should be fine. As the heap cools down, fungi and actinomycetes predominate, attacking the tougher carbon rich cellulose material and making it available for use by bacteria. Insects, worms and other animals. Turning the compost at this stage introduces more oxygen, thereby allowing the heap to heat up again. At this stage it may also be necessary to add water if the material is dry, and any uncomposted material from the edges can be incorporated back into the heap. **For a heap to heat up it must be at least one cubic metre (1m high, wide and deep), ideally a bit more.**

Whether you make a hot or cold compost, you need to add roughly the same proportions of ingredients. You can mix everything together and then put it in the bin or layer it up as you go. Shredding or mowing materials will help mix them and they will break down faster. Everytime you add a 5cm layer of greens, cover it with a similar layer of browns. This will ensure you have sufficient of both and will also help reduce odour.

BIN TYPES

There are lots of ways to contain your compost. Free wooden pallets can be tied together; a circle of cardboard-lined metal or plastic netting is another cheap option. Commercial plastic compost bins and traditional three bay or layered wooden squares also work well but can get more expensive. You can even just make a heap in one corner of your property with an old sack or some straw for a 'roof' (but it will work better if contained).



USING YOUR COMPOST

When finished it will be around 30% of its original volume and should resemble dark crumbly soil. To get the maximum benefit from compost as a source of plant nutrients it should be applied to the soil surface in the spring. Do not dig-in your compost. Apply it as a surface mulch at the rate of 1 bucketful per square metre. Spread it on top of the soil and lightly fork it into the top couple of centimetres.

CHECKLIST FOR A SUCCESSFUL COMPOST:

A Aliveness: compost is a living system. Sprinkle a handful of old compost or some rich garden soil into your compost to add some more living organisms. You can also add inoculants such as Effective Microorganisms. Building a new heap on top of an old one also introduces microorganisms.

D Diversity: make sure you have a good mix of materials- the more variety, the better it works.

A Aeration: make sure you have some coarse materials that will keep the air flowing at different levels. Periodic mixing with a garden fork can also help.

M Moisture: as you add materials make sure you are maintaining a damp environment. Each layer should feel like a wrung out dishcloth. Cover your compost with a wet sack or lid with air holes to keep that dampness in and keep the rain from making it too wet, especially if you are in a high-rainfall climate.