

## Making Your Own Compost

Micro-organisms such as bacteria and fungi are responsible for rotting down/decomposition of organic materials in the environment. A teaspoon of soil will contain a billion microorganisms. A compost heap can provide the right conditions for micro-organisms to flourish. They need food, air, warmth, water and somewhere to live. This is best achieved by constructing a compost pile from scratch, rather than adding little and often to a pile of rotting vegetation. Compost provides the soil with diverse populations of microorganisms that hold onto and cycle nutrients and make them available at the roots in a soluble form that plants can absorb. Compost also contains humus, the highly stable residue, left after decomposition, that builds soil structure and moisture-holding capacity.

<p><b>Food sources for micro-organisms</b></p> <p>Everything that has recently lived will rot down eventually. To steer the process towards making a useful 'nutritious' compost, mix slower with faster rotting things.</p> <table border="1" data-bbox="288 801 831 1010"> <tr> <td> <b>Slower (high carbon, drier)</b>  Paper  Cardboard  Straw  Dry stems </td> <td> <b>Faster (high nitrogen, wetter)</b>  Grass cuttings  Young plant tops  Fresh leaves  Manure </td> </tr> </table> <p>Bought-in compost activators are high in nitrogen. Urine also works well.</p>	<b>Slower (high carbon, drier)</b> Paper Cardboard Straw Dry stems	<b>Faster (high nitrogen, wetter)</b> Grass cuttings Young plant tops Fresh leaves Manure	<p><b>Air</b></p> <p>Compost-making creatures need air to breathe. Waterlogging reduces the amount of air and slows microbial activity. Aim to mix ingredients to create plenty of air spaces. Over time, as it settles, turning the mix adds in more air. This is better than leaving holes in the bin sides, which can cool the compost down. The freshly assembled heap will heat up, reduce in volume, and cool down – this is the time to turn it, adding air to 'jumpstart' microbial activity, heating and decomposition.</p>
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<p><b>Warmth</b></p> <p>A warm heap will compost quicker. Heat kills weed seeds and dangerous bacteria, and discourages rats. Composting bacteria create heat as they work, given the right mixture, enough air, and damp conditions. Keep the heap warm by making it big enough, a minimum of 1 cubic metre is best, and well insulated with a cover and solid sides.</p>	<p><b>Water</b></p> <p>Bacteria and other composting creatures need moist conditions. Too much water results in cold wet slime and nutrient leaching (being washed away). Remember fresh leaves are about <math>\frac{3}{4}</math> water, which makes the heap damper than it appears when first made. Covering the heap keeps moisture in and excess rain out.</p>		

## Compost Ingredients

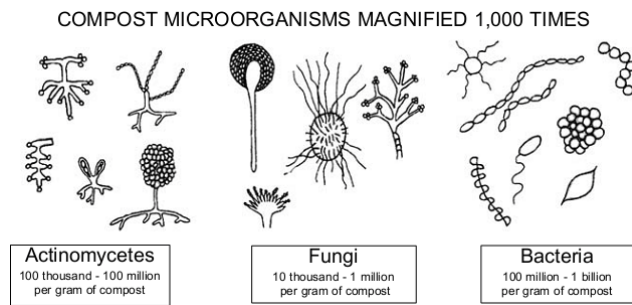


## Browns and Greens

Golden rule: Nicky Scott (compost guru) suggests adding one part green to at least one part brown by volume e.g. use a bucket as a measure. Imagine a sandwich- brown 'bread' with a green 'salad' filling.

**Browns** = Dry, hard, absorbent Carbon-rich, generally bulky and dry, such as paper, cardboard, straw, woody waste

**Greens** = Wet, soft, Nitrogen-rich vegetable peelings, grass clippings, fresh plants, coffee grounds, tea bags, animal manures, urine, green manures. Vital for getting the pile to heat up.



Microorganisms that decompose organic matter use up Carbon as a source of energy whilst Nitrogen is made into proteins for building cell structure. They need more carbon than nitrogen. Too much Carbon – nothing happens! Decomposition slows down as available Nitrogen is used up; too much Nitrogen produces a smelly (ammonia), soggy pile.

### Sheet or Trench composting

Is allowing waste to rot simply spread on or in the ground, not piled in a heap or bin, usually in Autumn/overwinter. This is a slower process, which will use some nutrients, especially nitrogen, before they are made available to plants, (Nitrogen 'robbery' from the soil by decomposers competing with plant roots for nitrogen as they try to break down carbon), so it 'locks up' space in the garden for a few weeks. Nutrients can be more easily washed away from the plant root zone by rain during sheet composting.

Fresh, uncomposted manure can harm plants by being too 'hot' (ie quick release soluble ammonium-form of Nitrogen). Composted manure is far more stable and Nitrogen in the form of nitrates and nitrites is released over a much longer timeframe. Well-made compost is always safe to use.

### Leaf Mould

Is the result of composting fallen Autumn leaves with no other ingredients, except possibly some lawn clippings mixed in. This is a 'cool composting' process, not needing insulation. It only needs an enclosed corner, wire or slatted bin, or large heavy-duty bag. Leave it all for a year or more to turn into useful soil conditioner.

### Using compost in your garden:

**As a mulch:** Finished or unfinished compost can be applied as a mulch 5-8 cm thick on the soil surface. Do not incorporate into the soil. Keep compost mulch 5-8cm away from plant stems. Nutrients will filter into soil, without robbing nitrogen from the root zone. Benefits: soil moisture retention, insulates soil from extreme temperatures, breaks down slowly to provide nutrients and organic matter for soil structure.

### As a soil amendment:

- Improves soil condition, and structure
- Increases the soil's ability to hold water and nutrients
- Supports living soil organisms (food and shelter)
- Helps dissolve mineral forms of nutrients
- Buffers soil from chemical imbalances
- May provide biological control of certain soil pests
- Helps return organic materials to the soil, and reduces landfill

**As a potting mix:** offers good water retention qualities and some basic nutrients.

**As a compost tea:** inoculant to boost soil microbe populations, increase disease-resistance in plants.