

# Composting

**Where can you find 'gardener's gold' and 'recycled sunlight'?** In the compost pile, of course! In nature, organic matter is continually being broken down and recycled; a well-built compost pile simply accelerates

sawdust. Materials high in nitrogen tend to be green and moist, dense, or sticky; grass clippings, vegetable wastes, and fresh manure. The smaller the bits that go into the pile, the faster they will decompose. Shred or chop large items such as corn stalks or woody cabbage stems and run the lawnmower over fallen leaves. (See Table 1 for the C:N ratio and degradability of various materials).

The compost microorganisms need water and air. The pile should be damp but not soggy. If you can squeeze more than a couple of drops out of a handful of it, it's too wet. The 'green and moist' material in the pile should supply most of the needed moisture but you can also sprinkle water on the brown layers as you build your pile so that everything is evenly moist. If hot weather dries out the pile, you may have to spray it with water or cover it with some loose straw to protect from drying sun and wind.

Making sure the microorganisms have enough air does not necessarily mean that you have to turn the compost pile, although turning does speed up the process. Good aeration starts with a well-drained site; even a bit of standing water will wick up into the pile and could cause problems. Use coarse materials at the bottom of the pile so that air can pass through. Also think about air passages as you build your pile; for example, straw improves air flow while grass clippings tend to mat together when wet.

The final consideration is heat. Composting works best if the temperature inside the pile gets up to 50-60°C for at least 10 days. This not only boosts the

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If you plan to make compost regularly, it will be helpful to have some form of compost bins. You can construct two bins out of planks or concrete blocks. Make the bins about 1.2 m (4') high, 1.2 m (4') wide, as long as desired, and open at one end for easy access. Leave spaces between blocks or planks for aeration.

A simple, portable, compost bin can be made with three or four sturdy used pallets that are simply stood on their ends in a square or open square and lashed or otherwise held together. This type of bin can be disassembled for easy turning and emptying, and then reassembled around the new pile. A chicken wire cage supported by three or four wooden stakes will also work satisfactorily, but is somewhat less sturdy.

There are also ready-made and kit composters available, including slat-sided cylinders into which refuse is added from above and compost removed at ground level. Rotating barrels for easy turning are also available; gardeners who have physical disabilities may find either of these types easier to deal with than the standard compost bin.

### Steps to quick (hot) compost

The advantages of hot composting are that the compost will be ready quickly, and high temperatures will kill weed seeds and disease causing organisms. The main disadvantage is that it requires labour to turn the pile.

1. Gather raw materials to make a pile that will be at least 1 m x 1 m x 1 m (3.3'). Shred and chop materials as finely as possible. Avoid oils, meat scraps, animal feces, and pesticide-treated plant materials. Store ingredients in piles or bins until ready to start.
2. Designate a spot near the garden for composting. You can make compost or just make a pile.
3. Use a garden fork to stack layer upon layer until you have a large enough pile. Alternate brown dry materials (high in carbon) with green moist materials (high in nitrogen). Try to have about equal volumes of each type of material. Sprinkle several shovelfuls of garden soil onto alternate layers to inoculate the pile with decomposer organisms.
4. Keep the pile moist. As you build the pile, sprinkle the layers with water if the materials are very dry. During composting, make sure the pile stays moist but not soggy.
5. Mix and aerate. The best method is to turn your pile every two days. Use a garden fork to invert the pile next to the original pile. Make sure

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# Activity 1

## **Make a compost pile**

Decide if you will make a hot or cool compost pile. Follow the instructions and make some compost!

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# Activity 2

## **Brew some compost tea**

'Compost tea' stimulates plant growth by adding nutrients and boosting biological activity in the soil. Place 1L of compost in a cloth bag and let it steep in 5 L of water for several days. Use full strength on older vegetable plants (dilute to half-strength for seedlings). Compost tea can be used every 14 days throughout the growing season.

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# Activity 3

## **Experiment with compost in a bag**

Gather the following:

- 1 cup green materials rich in nitrogen such as: fresh lawn clippings, young weeds, fruit and vegetable scraps.
- 2 cups brown materials rich in carbon such as: fallen leaves, straw, sawdust, and shredded newspaper.
- 1 tablespoon of soil

Place the green materials, the brown materials, and the soil into a 1-quart freezer bag. Mist the mixture with water until the browns are moist but not soggy. Seal the bag. Place the bag on a bright windowsill.

Shake or massage the bag each day to mix the ingredients. Every other day, open the bag for about six hours to aerate it and then reseal it. In two to eight weeks, the mix will become compost. Make observations of the changes to the organic materials as they decompose and become familiar with how finished compost looks and smells.