



Toronto
Green
Community

COMPOSTING

WHY COMPOST?

Compost diverts organic matter from the waste stream, makes green spaces naturally more vibrant, reduces the energy needed to make chemical fertilizers and process waste, is a key ingredient in organic food production, and increases the water retention of soils.

WHAT IS COMPOST AND HOW DOES IT WORK?

Compost is decomposed organic matter; things that used to be alive and have broken down into elements and minerals that can be absorbed by plants. Organic matter comes in two types, nitrogen-rich (**greens**) and carbon-rich (**browns**).

Greens include food scraps, grass cuttings, coffee grounds, eggshells – generally things that are fresh and moist. Browns are drier, more absorbent materials like newspapers, dry leaves, straw, or branches.

In order for your compost pile to break down properly, it requires the right ratio of greens to browns. With too many greens (nitrogen-rich) the pile will putrefy, releasing nitrogen gas and unpleasant smells and become too wet. If there are too many browns (carbon-rich), the microbial activity will not heat the pile enough for rapid decomposition. The ideal ratio is 30:1 by weight – 30 parts carbon for each part nitrogen. However, different materials have different C:N ratios. Lists of relative C:N ratios for most materials are available but it's generally easier to approximate and troubleshoot as you go. Well-balanced compost is not too wet or dry, with a consistency like a wrung out sponge, and the pieces being added should be small, to speed decomposition. If compost isn't breaking down, add more greens. If compost is beginning to smell, add browns. This rule also applies for kitchen green bins, if you are noticing an unpleasant odour, adding a few pages of torn up newspapers can stabilize the green/brown balance and stop the production of ammonia.

Compost is indispensable for ecological gardeners because it is a solution for many soil problems including soil that is compacted, doesn't hold water or is lacking fertility. Compost creates a healthy, resilient soil and while it can't fix all garden problems, any garden can benefit from its application.

TYPES OF COMPOSTING

The **standard approach** uses a large black plastic or wooden backyard bin. This approach involves layering, using the 30:1 ratio of carbon to nitrogen. Aeration aids the decomposition process – regularly mix the bin contents to give the bacteria in the pile access to air. Avoid adding certain food and plant wastes such as meat, dairy, or weeds that have gone to seed because these composters don't heat up enough to break them down or to sterilize the weed seeds. Meat and dairy will decay and attract pests and seedy weeds will spread weeds throughout the garden.

Vermicomposting is composting with worms. It uses one specific type of worm, *red wigglers*, which are able to eat the equivalent of their own body weight each day. These worms can live in a specially constructed worm-bin, and be kept indoors or on a balcony, making them a great composting option for apartment dwellers. These are the tools you will need to construct a worm-bin:

Plastic container with 8-12 holes in the bottom for drainage

Basin or container to collect the excess liquid (*which can be used as plant fertilizer*)

Bedding for the worms (*torn up newspaper, leaves, compost including a couple of handfuls of sand for worm digestion*)

Worms!

Organic material relative to weight of worms (*i.e. one pound of worms will eat one pound of organic material*)

To prepare the bin, it needs to be $\frac{3}{4}$ full of bedding material for the worms to live in. The most important thing to remember is to *not overfeed* the worms, and to keep food scraps small. Every day, worms eat half their weight in food and half in bedding, so a pound of worms processes about half a pound of scraps per day. If you keep the input at a manageable amount, the worms will produce extremely rich compost for you, called worm castings, out of something that would otherwise be waste.

Lasagna gardening or sheet mulching creates compost directly where you will use it, and a garden bed. Organic material is piled in layers in the fall, and by spring it has decayed into a fertile garden bed. This technique can be used on top of grass in order to turn it into a bed, without the heavy labour of digging up and burying turf. Here are directions for lasagna gardening:

- Mark out the area you want for the bed by creating a border or staking the corners
- Start with a layer of wet newspapers or cardboard 5mm (1/4 inch) thick to create a weed barrier so that your new bed can be accessed beneath by insects but not weeds
- Next, add a layer of compost, peat moss or something similar, 2.5-5 cm (1-2 inches)
- Then add several inches of organic material, straw, leaves, grass clippings
- Alternate levels of compost and organic material until the bed reaches a desired thickness, and finish with a layer of mulch. Water very thoroughly
- If this bed is left to sit through the winter, by spring it should be weed-free and ready for planting

CITY COMPOST

Free compost for your garden is available to city residents during Community Environment Days through the City of Toronto (making all the contributions to green bins pay off!). On these days the City deposits compost at a central location, such as a school or community centre for free pickup. Search online for Community Environment Days in your neighbourhood.

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