



Home Organics Management Backyard Composting

Composting is a natural biochemical process which results in the decomposition of organic matter into a nutrient-rich material that can be used to enhance soils.

This process is facilitated by bacteria, fungi, worms, and many other microorganisms. Decomposition is nature's way of recycling plants, animals and other organisms back into soil. When you compost your food scraps and garden trimmings, you are working to mimic this natural decomposition process. Another major benefit of backyard composting is the diversion of these materials from the landfill.



What Can I Compost?

Any organic material can be composted but some materials are more appropriate for backyard bins than others due to wildlife concerns and other considerations. The more balanced and diverse the materials that go into your composter, combined with proper maintenance, the better your finished compost will be.

OK to Compost

- Fruit scraps
- Vegetable scraps
- Egg shells
- Paper towel and napkins
- Coffee grounds/teabags
- Garden debris
- Leaves/grass clippings

Not OK in Most Bins*

- Meat or bones
- Dairy products
- Bread and grains
- Cooked food
- Weeds gone to seed
- Cat and dog feces
- Diseased plants
- Weeds with rhizomes (e.g. morning glory)

Effort Scale



Easy

Hard

Involves weekly maintenance (aeration) and monitoring (for moisture content). Your compost needs to be harvested one to two times each year.

Cost Scale



Less \$

More \$\$

Costs range from \$50 - \$200+ depending on model chosen. DIY options also exist. Choose a model that best fits your situation and needs.



Composting and Wildlife

Backyard composting has a high risk of attracting wildlife, including bears, skunks, raccoons, and pests such as rats. Only backyard compost if you have a way to protect your compost bin from wildlife (e.g. electric fencing), or limit what you add to it by not including fruits, vegetables, or other attractants for these animals.

**These materials are technically compostable, but are not recommended in backyard composters due to their attractiveness to wildlife pests, or the risk of spreading pathogens or invasives due to slow or poor composting. Industrial composting facilities (such as the RDCK's) can generally accept these materials.*

Compost Bins

Backyard composting is best done in an enclosed bin rather than a large pile. Bins can be home-built or are available prefabricated. An enclosed bin serves several purposes:

- Keeps the rain out, preventing the pile from becoming saturated with water and leaching nutrients
- Keeps rodents and other small animals out
- Makes for easy management and containment of the compost – i.e. easy to aerate and harvest

To keep your compost bin secure from rodents and other small animals, make sure it has the following:

- A secure lid
- A bottom or baseplate (ideally with small holes to allow contact with the soil ecosystem while keeping animals out)
- No holes bigger than 1/4"

Consider multiple bins for larger households or more active composts. It's great to be able to turn compost in-to an empty bin for curing while you add fresh material to the second.

Locating Your Compost Bin

The location of your compost bin(s) is more important than you may think. Your compost bin should be:

- Out in the open. Avoid having your bin under trees or up against shrubs, wood piles or buildings (especially your house). These places provide protected habitat for rodents and can encourage them to take up residence in your bin.
- On bare soil. This allows soil microorganisms to enter the bin and assist in the composting process.
- In a convenient place, to make maintaining your bin as easy as possible.
- In sun or shade. Either is fine, but the sun creates more heat and accelerates the process

You'll have the most success with this composting method if you have a stockpile of dried leaves or straw (browns) available close to your composter. You may wish to stockpile leaves in the fall. These can be stored in piles, bins or a home-made hoop bin and accessed as needed.

How Do I Backyard Compost?

Composting simply requires mixing organic materials in an enclosed bin and ensuring that the conditions in the bin remain optimum for the decomposition of those materials. To create those optimal conditions for decomposition, consider the following: green to brown ratio, surface area of materials, moisture, and air.

1. Greens to Browns Ratio

All organic materials contain both nitrogen and carbon. However, materials have different proportions of these two elements. Materials that are higher in nitrogen are called 'Greens' and materials that are higher in carbon are called 'Browns'.

Greens	Browns
• Fruit and veggie scraps • Fresh grass clippings • Fresh plant cuttings • Animal manure (horse, chicken, cow) • Eggshells	• Fallen leaves • Straw • Chipped woody debris • Shredded/wood shavings • Sawdust • Dry grass clippings

When making your compost pile, you should use equal amounts of brown and green materials by volume. When adding materials alternate between browns and greens. Cover every layer of greens with a layer of browns (prevents odour, pests, and flies).



Air: Aerate each week.

Moisture: Keep the material as wet as a wrung-out sponge.

Layering: First layer should be rough twiggly material to allow airflow. Subsequent layers should alternate greens and browns.

2. Surface Area of Materials

Materials that are smaller in size will break down faster than large pieces – the greater surface area of smaller pieces makes it easier for compost organisms to digest the materials. You can cut up materials using many methods, including a lawnmower, machete, food processor, leaf shredder, knife or hand pruners. Essentially, you are kick-starting the process of decomposition by reducing materials in size.

3. Moisture

Moisture is important in a compost pile for two reasons:

1. It helps soften organic materials, making them easier for microorganisms to digest.
2. It supplies the water that microorganisms need to survive.

Microorganisms do most of the decomposing in your compost pile, so their survival is very important. In fact, making a good compost pile is all about creating optimum living conditions for microorganisms.

Without enough water, microorganisms cannot thrive and will die or go dormant and the pile will decompose very slowly. However, too much water can slow down decomposition – it prevents air from getting into the pile and creates anaerobic (oxygen-poor) conditions. Anaerobic decomposition is slow creates a strong, unpleasant odour, and emits methane. A good compost pile should be as wet as a wrung-out sponge and smell earthy or sweet.

If you are putting lots of kitchen scraps into your compost bin be very mindful of the moisture level. Kitchen scraps are high in nitrogen and have a high-water content which can cause anaerobic conditions. Be sure to balance your composter with enough dry, brown materials when adding kitchen scraps.



4. Air and Ventilation

Air provides microorganisms in your compost pile with the oxygen they require to carry out the decomposition process. It is important to ensure there is always enough air in your pile. This can be done in several ways:

- Start with a layer of coarse sticks on the bottom of your pile to allow air flow at ground level
- Do not use thick layers of material that are prone to matting down easily - moist grass clippings, excessively wet kitchen scraps or large amounts of newspaper or leaves.
- Periodically include thin layers of rough materials like plant stalks, small twigs, or corn cobs. Although these materials take longer to break down, they increase
- airflow within the pile.
- Lightly mix each layer of green and brown materials together as you add them to prevent pockets of green materials from going anaerobic.

Even if you use the above methods to keep air in your compost pile, it is still important to actively aerate your pile on a regular basis. An easy way to do this is with an aeration tool (pictured), a pitchfork or old ski pole (basket removed). Simply push the tool into the compost pile, twist and lift out (5-10 times should be adequate). This aerates the pile without mixing the finished material at the bottom with the fresh material on the top too much.

Aerating your compost pile weekly in spring, summer, and fall will help accelerate the composting process. Added benefits include increased rodent resistance and more even decomposition.

Common Compost Problems

Symptom	Problem	Solution
Compost pile has a bad odour	Not enough air; pile too wet	Turn it; add coarse, dry material (straw, cornstalks)
Pile is dry throughout	Not enough water; too much brown material; or pile is too small	Turn it and moisten materials; add fresh green materials; cover pile; water pile (summer)
Pile is damp and sweet-smelling but still not breaking down	Imbalance of greens and browns (likely too many browns)	Ensure you are adding equal parts of green and brown material
Pest infestation - rodents or birds	Incorrect food scraps added; location; open bin, no secure bottom	Don't add meat, fats, bones or other animal waste; use a rodent-resistant compost bin; relocate bin to open area; aerate regularly; make sure your top layer is brown material
Flies	Food scraps not covered	Cover green material with brown material

Harvesting Your Compost

How Do I Know When My Compost is Finished?

A backyard compost bin can take 6-12 months to compost completely. The closer you follow the directions on this fact sheet, the quicker the process will be!

There are a few ways that you can tell if your compost is finished:

- Material is dark and crumbly and there is little sign of food scraps (i.e. it looks and feels like soil).
- Material has an earthy smell.
- Volume of bin has reduced significantly.

Once your compost is finished, it is time to harvest it from the bin. A well-designed bin allows you to harvest from a door at the bottom. Open or remove this door and use a shovel or hard rake to pull the material out of the bin. Alternatively, you can shovel off the top of the pile onto the ground or into a wheelbarrow, harvest the finished material at the bottom, and replace the unfinished material to restart the process. Using a screen, sift out any materials that are not fully decomposed and return them to the compost bin (see picture).

Once the compost is sifted, store it in a dry place so rain won't leach the nutrients out of it. It can easily be stored under a tarp or in another compost bin. Finished compost should be used within a few months after harvest.



A simple screen can be made from 1/2" hardware cloth and a 2x4 wooden frame. This can be used by one or two people to sift the compost.

Using Finished Compost

Finished compost is one of the backyard gardener's best friends. Here are some of the many ways you can use it:

- Lightly dig it in to the top 6-8 inches of soil for spring or fall planting or use it as a mulch any time.
- Mix into a home-made potting soil recipe.
- Top-dress potted plants, hanging baskets, perennials, and container gardens.
- Sprinkle it on the lawn as top dressing.
- Add compost to hole whenever transplanting plants
- Use it to brew compost tea for fertilizing and to increase pest resistance in your garden.

This guide is derived from a series of Factsheets from the Compost Education Center. For more information and resources from the CEC, visit compost.bc.ca



Learn more at rdck.ca/organics