



# Back Yard Composting

Composting is a natural, biological process resulting in the rapid decomposition of organic matter. This process is performed by bacteria, fungi, worms, and many other small organisms. In nature, decomposition results in all living things – plants, animals, insects, and bacteria – being recycled and returned to the Earth from where they originally came. This decomposition process helps provide nutrients and food to plants and soil organisms. Backyard composting is an easy way of mimicking this process. It is useful for backyard gardeners, who can use the finished compost to improve the quality of their garden soil; and for those looking to divert compostable materials from the landfill, which can reduce their landfill waste by more than one third.

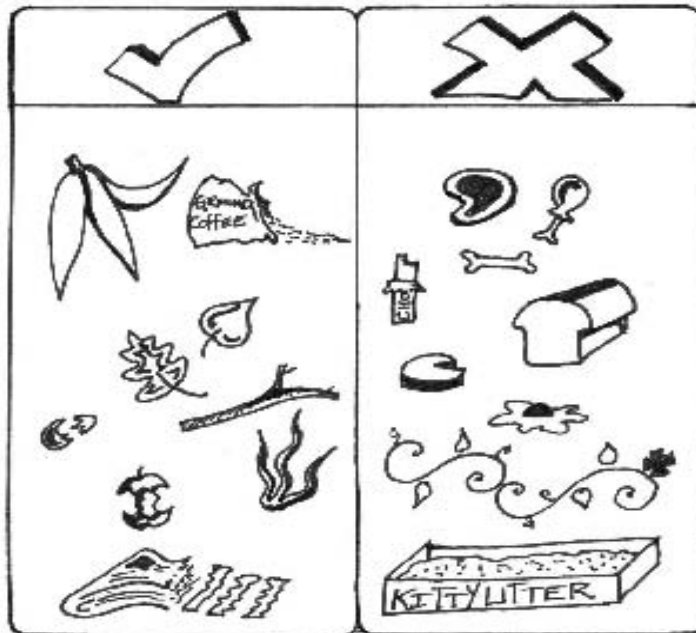
**Effort Scale:**

Easy	1	2	3	4	5	Hard	Involves weekly maintenance and monitoring including aeration and mixing. Your compost needs to be harvested one to two times each year.

## What Can I Compost?

Any organic material can be composted but some materials are more appropriate for backyard bins than others. The wider the variety the better:

OK to Compost	Do Not Compost
<ul style="list-style-type: none"> <li>◆ Fruit scraps</li> <li>◆ Vegetable scraps</li> <li>◆ Rinsed egg shells</li> <li>◆ Shredded newspaper</li> <li>◆ Coffee grounds/teabags</li> <li>◆ Garden debris</li> <li>◆ Leaves/grass clippings</li> <li>◆ Dryer lint and human hair</li> </ul>	<ul style="list-style-type: none"> <li>◆ Meat or bones</li> <li>◆ Dairy products</li> <li>◆ Bread</li> <li>◆ Cooked food</li> <li>◆ Weeds gone to seed</li> <li>◆ Cat and dog feces</li> <li>◆ Diseased plants</li> <li>◆ Weeds with rhizomes (e.g. morning glory)</li> </ul>



## Compost Bins

Backyard composting is best done in an enclosed bin. Bins can be home-built or are available pre-fabricated. An enclosed bin serves several purposes:

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



**Locating Your Compost Bin**

The location of your compost bin is more important than you may think. Most important is not to put the bin right up against a building, especially your house. You should also avoid having it up against shrubs, wood piles or other outdoor structures. These places provide great habitats for rodents and the compost bin makes them even more enticing.

There are several other things to consider when locating your bin:

- ◆ Is it on bare soil? This allows soil micro-organisms to enter the bin and assist in the composting process.
- ◆ Is it located in a convenient yet out-of-the-way place?
- ◆ Is it in sun or shade? Either is fine, but the sun creates more heat and thus accelerates the process.

**How Do I Compost?**

Composting simply requires adding a mixture of organic materials to an enclosed container, like the Earth Machine (see cover page), and ensuring that the conditions in the container remain optimum for the decomposition of those materials. In order to create those optimum conditions for decomposition, you should take into consideration the following elements: carbon to nitrogen ratio, surface area of materials, moisture, and air.

**1. Carbon:Nitrogen (C:N) Ratio**

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

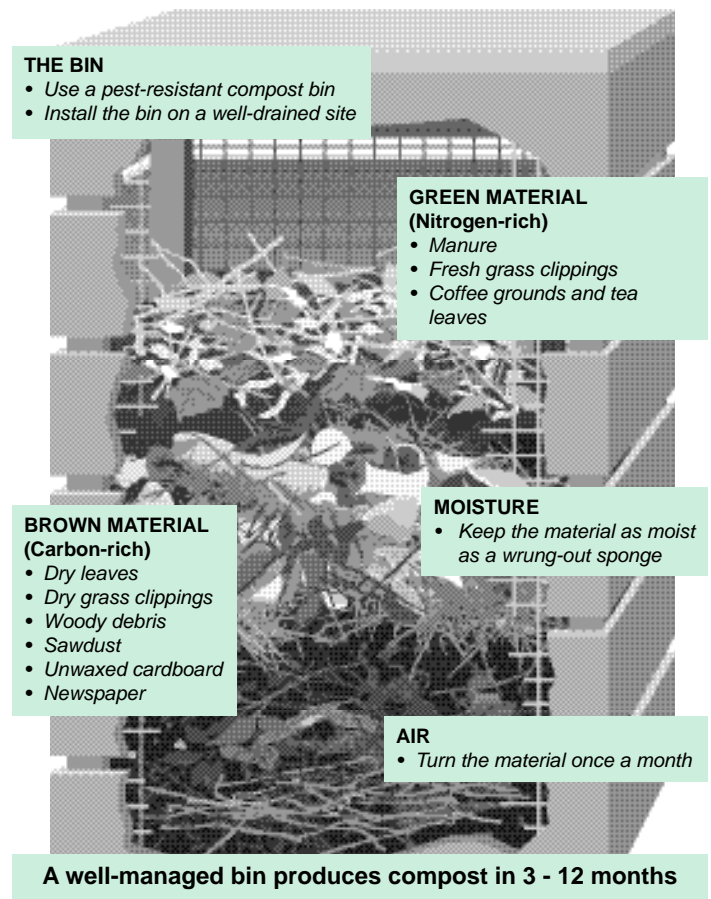
Greens	Browns
◆ Grass clippings	◆ Fallen leaves
◆ Fresh weeds and plants	◆ Straw
◆ Fresh animal manure (horse, chicken, cow)	◆ Chopped woody debris
◆ Okara (tofu by-product)	◆ Newspaper
◆ Fruit and veggie scraps	◆ Sawdust
◆ Eggshells	◆ Shredded cardboard

As a general rule, when making your compost, you should use equal amounts of brown and green materials. When adding materials, try to alternate between adding browns and greens. Keep in mind that some materials are *very high* in nitrogen (grass clipping and manure) or carbon (sawdust and wood chips) so you will need to adjust your mix accordingly. In the summer, nitrogen materials are plentiful

and brown materials can be hard to find. Therefore, it is a good idea to collect and stockpile leaves in the fall and winter as they fall from the trees. These can be stored in strong plastic bags or a homemade hoop bin (see Fact Sheet #6 - Urban Leaves) and accessed as needed.

**2. Surface Area of Materials**

Materials that are smaller in size will break down much quicker than larger pieces – the greater surface area of smaller pieces makes it easier for compost organisms to ingest the materials. You can cut up materials using many methods, including a lawnmower, machete, food processor, leaf shredder, or hand pruners. Essentially, you are 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.
2. It supplies water to micro-organisms in the compost pile.

Micro-organisms 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 micro-organisms. Without enough water, micro-organisms 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 (without air) conditions. Anaerobic composting is a much slower process than aerobic composting and can create a strong, unpleasant odour. A good compost pile should be as wet as a wrung-out sponge.

If you are putting a lot of kitchen scraps into your compost bin you will want to be very mindful of the moisture level. Kitchen scraps generally have very high water content and can quickly result in the presence of anaerobic bacteria.

**TIP:**  
If you find that your pile is too wet, you can add more dry materials, aerate the pile, and even spread the pile out in the sun for a few days to help excess moisture evaporate.

**4. Air and Ventilation**

Air provides micro-organisms in your compost pile with the oxygen that all living things require. It is important to ensure there is an adequate amount of air in your pile at all times. This can be done in several ways:

- ◆ Do not use too much material that is prone to matting down easily, such as moist grass clippings, excessively wet kitchen scraps, or okara (tofu by-product). These materials can easily create anaerobic conditions.

- ◆ Use rough materials like sunflower stalks, small twigs, or corn cobs. Although these materials take longer to break down themselves, they help other materials break down quicker.
- ◆ Put a floor of rough materials at the bottom of your compost pile to create airspace in the bottom.
- ◆ Make sure your materials are well mixed when you build your pile. Pockets of green materials can become matted down and start to smell.

Even if you employ the above methods to keep air in your compost pile, it is still important to aerate your pile on a regular basis. An easy way to do this is with an aeration tool (pictured). Simply push the tool into the compost pile, twist and lift out (5-10 times should be adequate).

Aerating your compost pile two to four times a month will help accelerate the composting process. This not only aerates the pile, it also mixes the materials, ensuring a more even decomposition.



<b>Common Compost Problems</b>		
<b>Symptom</b>	<b>Problem</b>	<b>Solution</b>
<i>Compost pile has a bad odour</i>	<i>Not enough air; pile too wet</i>	<i>Turn it; add coarse, dry material (straw, cornstalks)</i>
<i>Pile is dry throughout</i>	<i>Not enough water; too much woody material</i>	<i>Turn it and moisten materials; add fresh wastes; cover pile</i>
<i>Compost pile is damp and warm in middle but nowhere else</i>	<i>Pile is too small</i>	<i>Collect more material and mix the old ingredients into a new pile</i>
<i>Pile is damp and sweet-smelling but still will not heat up</i>	<i>Lack of nitrogen</i>	<i>Mix in a nitrogen rich source like fresh grass clippings, fresh manure or bone meal</i>
<i>Pest infestation - rodents or birds</i>	<i>Improper food scraps added</i>	<i>Don't add meat, fats, bones or other animal wastes Use a rodent-resistant compost bin</i>
<i>Flies</i>	<i>Food scraps not covered</i>	<i>Place fruit and vegetable wastes in the centre of the pile; cover with soil or other carbon-rich material</i>

## Harvesting Your Compost

### *How Do I Know When My Compost is Finished?*

A backyard compost bin can take from 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 now dark and crumbly and there is little sign of food scraps.
- ◆ Material has an earthy smell.
- ◆ Volume of bin has reduced significantly.



A simple screen can be made from ½" hardware cloth and a 2x4 wooden frame. This can be used by one or two people to sift your compost.

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. Once you have pulled the material out of the bin, it is a good idea to screen it to remove any materials that are not fully decomposed or that are too bulky or woody. This can be done using ½-inch hardware cloth mounted onto a wooden frame (pictured left).

Once the compost is sifted, store it in a dry place so the rain will not leach the nutrients out of it. It can easily be stored under a tarp or in another compost bin.

## Using Finished Compost

Finished compost is one of the backyard gardener's best friends. How can you use it?

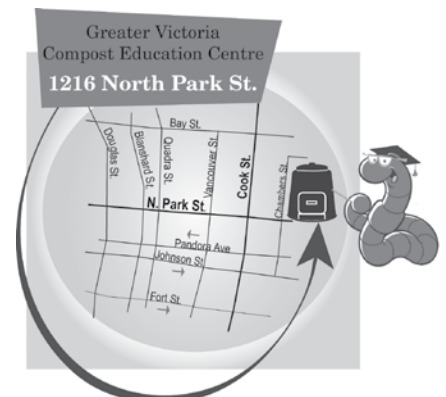
- ◆ Dig it into the top 15 cm (6.5") of soil for spring or fall planting, or use it as a mulch in the summer.
- ◆ Screen it and use it with an equal volume of rough sand or perlite for a seedling mixture.
- ◆ Add it to equal parts potting soil and perlite for container gardening or house plants.
- ◆ Top dress potted plants, hanging baskets and containers.
- ◆ Sprinkle it on the lawn as a top dressing.
- ◆ Add a shovel-full of compost to a cloth bag and soak overnight (or several days for a stronger mix) in a 5 gallon bucket of water. The resulting tea can be diluted with water to the consistency of drinking tea, and used as a nutrient-rich fertilizer for your plants.

## CONTACT US:

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We sell composting equipment, gardening guides and more. Call, e-mail, drop by or visit our web site.

**Call the Compost Hotline:  
 386-WORM**



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