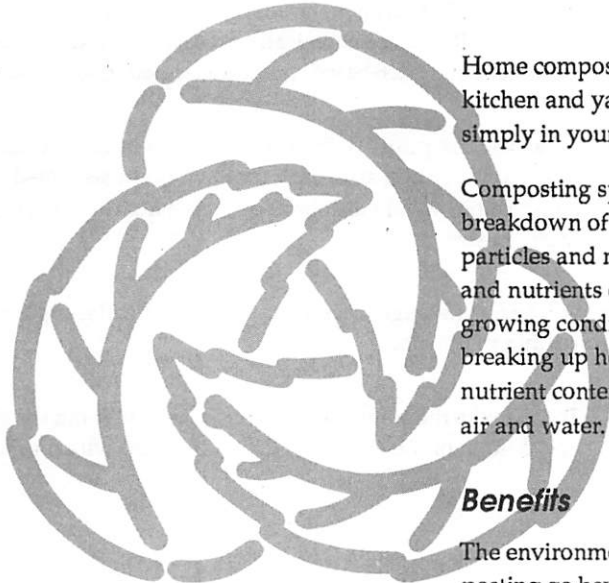


# HOME COMPOSTING

## How to Build and Maintain a Compost Bin



Home composting is a way of recycling kitchen and yard wastes safely and simply in your own back yard.

Composting speeds up the natural breakdown of organic material into particles and nutrients. These particles and nutrients contribute to better growing conditions for plants by breaking up heavy soils, increasing soil nutrient content, and helping soil retain air and water.

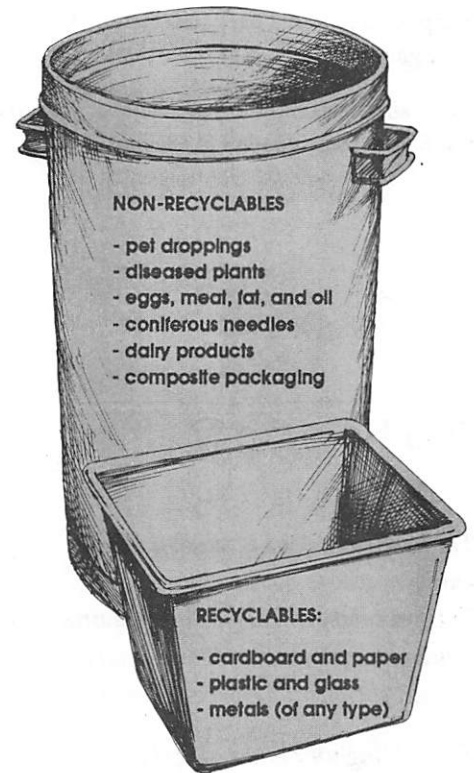
### Benefits

The environmental benefits of composting go beyond your own garden. Studies have shown that about one third of your household waste is compostable. This translates into more than half a tonne of organic waste for a family of four each year!

When you choose to compost, you help protect Alberta's environment by

- reducing your share of landfill space
- reducing the energy spent on waste collection and disposal
- reducing the need for fertilizers.

Composting can also provide you and your family with a group project, a chance to work outdoors, or simply an excuse for regular exercise. By following the guidelines in this brochure you should be able to start and successfully maintain a compost bin.



### What to Add

### What to Avoid

# COMPOST BINS

There are many types of compost bins. Whether you choose to buy or build one, first consider your lawn and gardening needs and the amount of organic wastes you need to compost.

## Buying a Composter

Commercially available composting units have the advantage of being durable and efficiently designed. However, they can be relatively expensive. It is cheaper to adapt a plastic barrel or garbage can. Just drill holes in the sides of the barrel or can and cut off the bottom of the container. Lift the container when it is time to mix the compost, allowing the contents to spill out, then shovel the partially composted material back into the bin. Use the finished compost in your garden.

Many simple designs are available. If you wish to design your own, just follow these general guidelines.



## The Holding Method

*The holding method is suitable for the gardener who is not in a hurry to get finished compost. This method requires much less maintenance than the turning method shown on the opposite page.*

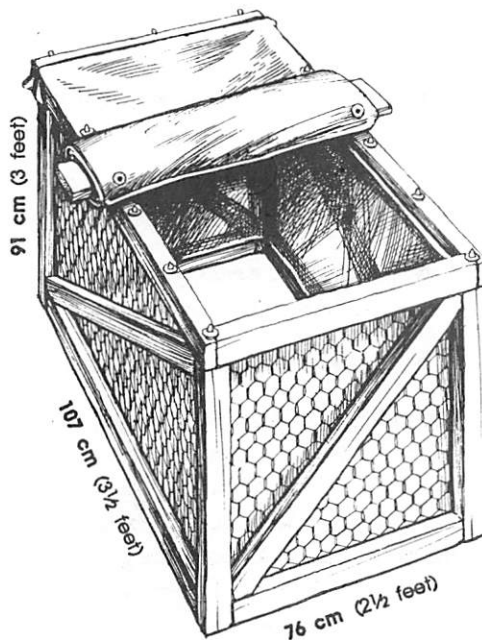
*The holding unit is also useful as a separate bin for composting large amounts of leaves.*

### Materials

The holding unit can be built as a four-sided, rectangular box that is open at the top and bottom.

Build the frame of this unit with 2 x 4's to provide strength. Lightweight strips of wood, such as discarded snow fencing may be used for the cross braces.

1. Use a construction stapler to attach a fine wire mesh, such as chicken wire, to the sides of the frame.



HOLDING BIN

2. Make a detachable cover for the bin using canvas, or polyethylene that will not degrade in the sun. Normally, you should keep the bin covered to protect the compost from vermin and weather.

## Building a Composter

- Consider using scrap materials to lower costs and conserve resources. If you use chemically preserved wood for your compost bin, water-based, pressure-treated wood is best.
- Make the composter about three-quarters of a cubic metre (one cubic yard) in size. Each unit in a multi-sectioned compost bin should also be about three-quarters of a cubic metre in size.
- Allow for drainage to prevent water from collecting at the bottom of the bin.
- Try to make the composter vermin-proof by lining the sides and bottom of the bin with 1.25 cm (1/2 inch) wire mesh.

## Method

- ▶ Place a layer of bulky yard waste, such as straw, on the bottom of the unit to provide aeration. Moisten this material if it is dry. This layer sets the stage for composting.
- ▶ Add any of the organic materials listed on page 1. Layering materials of different densities will increase air circulation. Don't worry too much about these layers; you will be mixing them up later anyway.
- ▶ Use a pitchfork to lift portions of the compost every two weeks or so. This will allow air to circulate, enhance the decomposition process, and prevent odors from developing.
- ▶ Check the compost for moisture. It should be as moist as a damp sponge. Add water if necessary, and continue to check the compost over the summer.
- ▶ Throw a few shovelfuls of soil on the top when the bin is full.

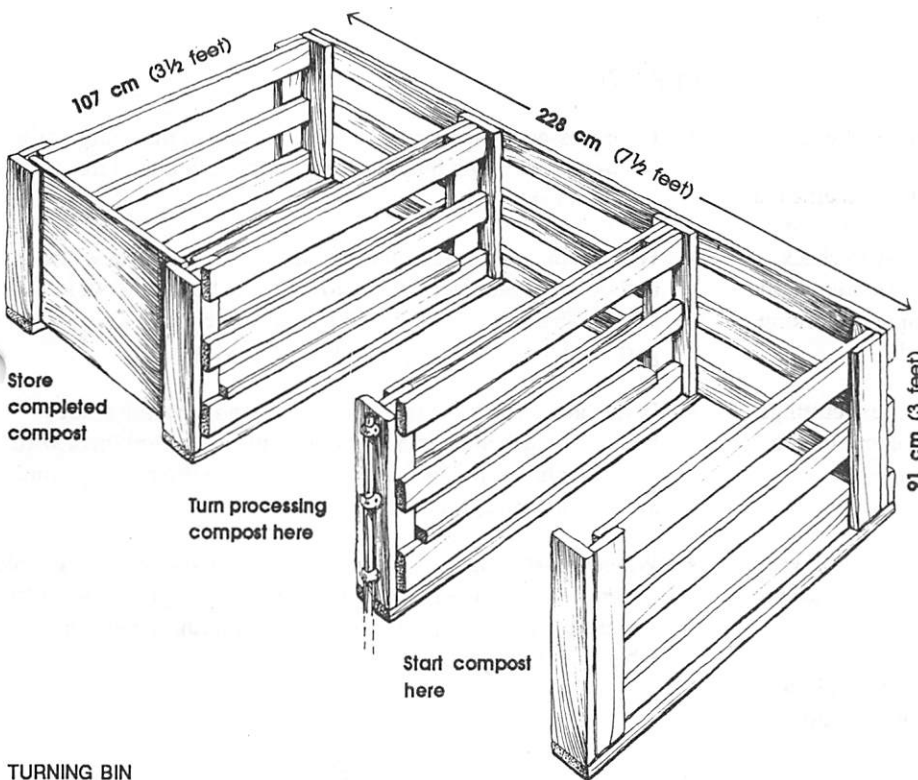


## The Turning Method

The turning method of composting is suitable for households with a large amount of compostables. The recommended unit is basically a 3-sided box that is three-quarters of a cubic metre (one cubic yard) in size, open at the top

and bottom, with one or two additional sections beside it.

The triple-sectioned unit shown below provides a second bin to transfer compost material when you turn it and a third section which can be used to store finished compost. If you don't know how much compost you will have, start with just one section and attach additional sections as required.



TURNING BIN

### Materials

One inexpensive and convenient construction method is to use discarded pallets. Pallets are the right size; they are slatted, which allows for ventilation; and they can serve as pre-built walls for the bin. You will need seven pallets for a triple-sectioned unit.

Whether or not you use pallets, a turning bin can be made almost entirely out of salvaged materials. In addition to

pallets or boards, you will need a cover and stakes or posts to keep the bin secured. You may also wish to add planks to the front of the composting sections to further contain the material.

If you lash the pallets together with hook and eye assemblies you will be able to disassemble the bin or move it easily. Use nails or screws to fasten the boards or pallets together if you prefer.

### Method

- As with the holding method, start by placing a layer of bulky or coarse yard waste, such as straw, on the bottom of the unit, to provide aeration. Moisten this base material if it is dry. This layer provides a good base for composting organic wastes.
- Alternate materials of different densities. Each layer should be about 15 cm (5 inches) thick. For example, small chunks of vegetable wastes should be layered alternately with uncompacted material, such as plant stalks. Make layers of easily compacted materials, such as grass clippings, thinner.
- Aim for a carbon-nitrogen ratio of 30:1 in your compost pile. Generally, dry, brown materials are high in carbon, while green materials are high in nitrogen. Dry leaves, for example, have a carbon to nitrogen (C:N) ratio of about 80:1 (which makes them slow to decompose), while grass clippings have a ratio of 19:1. The C:N ratios for some other compostable materials include straw at 80:1, sawdust at 400:1, and farmyard manure at 14:1.
- Sprinkle in some soil after every 25 to 30 cm (10 to 12 inches) of new material that you add. The natural composting organisms in soil aid the decomposition process.
- Turn the pile inside out once every week or two. This supplies air and new material to the composting organisms. Fork the compost into an empty section. Then return the unprocessed material to the original bin. Generally, the more frequently you turn the pile, the faster the composting process will work.
- Maintain the pile so that it retains a sponge-like dampness. If the compost is slimy looking and smells sulphurous (like rotten eggs) mix in dry yard waste or sawdust and leave the cover off. Add moisture to any dry spots that you find as you turn the pile.
- Cover the pile to protect it from frost and rain. The material will cool if the pile gets drenched and the composting process will stop.

## Helpful Hints

### Locating the Bin

- Place your composter in a shady or semi-shady area to save other sunny spots for gardening.
- If you have lots of sunny space, help keep the pile warm by placing your compost bin in the sun. Remember, don't let the pile dry out.
- Place the bin on well-drained and level ground.
- Place the compost bin where it is easily accessible.
- Position the bin to minimize odor impact.

### Maintenance

- Crush or shred bulky material to speed up decomposition.
- Check the temperature of the compost occasionally. An efficient compost pile will heat to 55-65 °C — hot enough to kill most weeds, insects, and disease organisms. An easy way to check the temperature is to stick a pipe or crowbar in the compost pile for 10 to 15 minutes and then pull it out. In a properly working compost pile the pipe will become too hot to hold.
- If the compost is too cold, add materials, such as grass cuttings, that are high in nitrogen. Add new composting material if the pile is only warm in the centre. Consult a gardening or composting book to fine tune the process.
- To prevent odors from occurring, turn the pile once every week or two. This provides the composting materials with sufficient air.
- Don't let the pile get too wet. If it does, the pile may begin to smell sulphurous (like rotten eggs). Simply turn it and add some dry material.
- If the compost begins to smell sharp, like ammonia, it means that the nitrogen level is too high. Mix in some high-carbon material to correct this problem.

### Finishing Up

- Finished compost is dark, lightweight, earthy-smelling material that has layer of unprocessed material on top. Composted material — even that which has been recently turned — will be cold to the touch.
- Do not wait until eggshells disintegrate to use the compost.
- Remove the finished compost to make way for new material and return the unprocessed top layer, along with any large chunks, to the bin for processing. It is acceptable to include small chunks of vegetation in the compost that you dig into your garden.

### In Winter

- Unprocessed compost that is left at the end of the summer can be composted again the following spring if you let it freeze in the compost bin.
- While composting will come to a halt in cold Alberta winters that doesn't mean you'll have to return to throwing out kitchen scraps. These can be safely left to freeze outside in a sealed garbage bin or in a compost pile for the winter.
- In the fall, if you have many leaves and no separate bin for them just place them in a contained area and shred them with a weed trimmer or lawn mower. Then store them in bags under a porch or in the garage for the winter.
- When you start again in the spring, intersperse layers of the old, unprocessed material with the new material. You may want to speed up the decomposition of leaves by adding manure or other high nitrogen materials.



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