



CAW
COMMUNITY ACTION NETWORK

Launch a Backyard Compost Program



Bruce Scott

Need help with
your project?
Contact Earth
Day Canada.
We're here to
help you.

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About Us

Earth Day Canada facilitates positive environmental action.

Earth Day Canada is a national charitable organization that provides youth and community organizations, schools, businesses, government departments, and individual Canadians with an opportunity to make a positive difference where they live, work, and spend their leisure hours. Our national network includes thousands of community organizers in every sector — all working for positive change.

Operating year-round, Earth Day Canada's mission is to improve the state of the environment by motivating and helping individual Canadians just like you to take positive environmental action. We offer interactive programs, a free community Earth Day/Earth Week public Events Calendar (available in March and April), and information and tools you'll use again and again.

Earth Day Canada, is the national organizer of Earth Day/Earth Week in Canada. April 22 is International Earth Day — the largest environmental event in the world. Every Earth Day, millions of Canadians join people in about 100 countries in positive environmental action. This popular event has grown into Earth Week in Canada to accommodate the scores of events that take place across the country.

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Earth Day Canada
144 Front Street West, Suite 250
Toronto, Ontario M5J 2L7
Tel: 416/599-1991
Fax: 416/599-3100

Editor-in-chief:

Debra Fernandes, Communications Director,
Community Action Network Manager

Contributing writer/environmental editor:

Karen Hortopan, EcoKids Manager

Copy editors:

Finn Martin, Communications Consultant
Naomi Herberg, Communications Consultant

Advisor:

Susan Antler, Composting Council of Canada

Graphic Design:

Vicki Jong

Illustrators:

Bruce Scott, Greg McEvoy

Launch a Backyard Compost Program

Earth Day Canada presents the Launch a Backyard Compost project to help your organization or neighbourhood group divert organic waste from a landfill or an incinerator.

Note: Use this project in conjunction with your CAN Manual. The Project Planner Pack may help you as well.

Goals

Be waste busters! Compost food scraps and yard waste to divert up to 1/3 of the waste your organization/group generates from landfill sites or incinerators.

Challenge: You, garbage, and the environment

Getting rid of garbage seems so simple, doesn't it? You throw it into bags for the garbage workers to take to a sanitary landfill or to an incinerator.

But garbage disposal isn't as simple as it seems. Current landfills in Canadian communities are filling up fast, and new sites are needed. Because landfills are designed to contain a region's garbage, they're generally quite large, encompassing many hectares of land. The only suitable land available for building new landfills to be farmland or wildlife habitat.

Did you know that landfills can be harmful to the environment and to human health?

Because food waste is buried under layers of waste with no contact with the air or sun, it doesn't decompose easily. Foodwaste in landfills contributes to the creation of leachate (a liquid composed of chemicals and other dissolved components of the garbage). As leachate contains a variety of harmful ingredients, it must be controlled to prevent it from leaking into the environment. What's more, food and yard waste is best not put in incinerators because it doesn't burn well. Organic waste tends to have a lot of moisture, so burning it is like burning a wet rag.

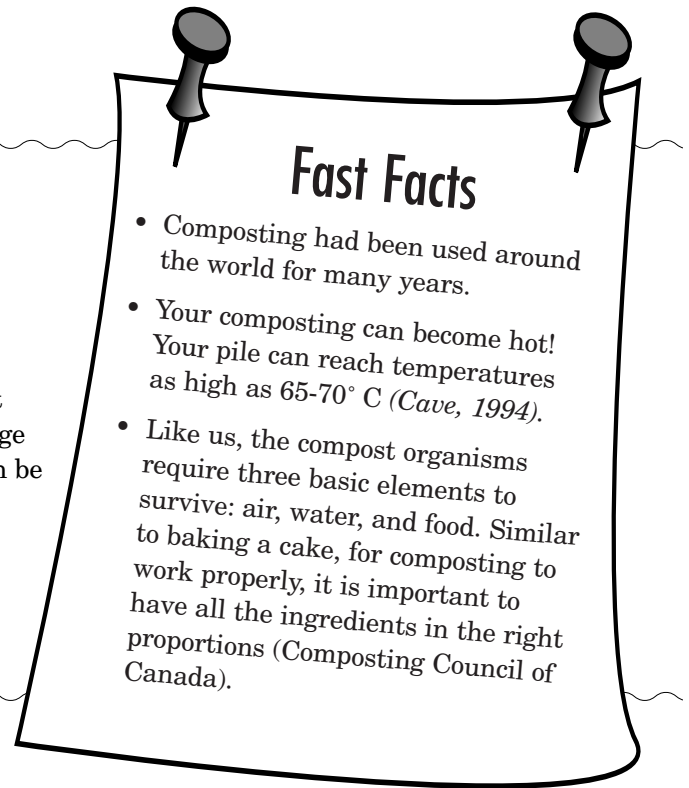
One solution to this waste challenge is to compost organic waste. The Composting Council of Canada says that composting is an important form of organic recycling. Backyard composting, on-site composting are each designed to manage various types and quantities of organic materials so that we can divert a significant amount of waste from landfills or incinerators and produce a valuable soil amendment for a variety of uses.

Fast Facts

- Each year, the average Canadian sends one tonne of garbage to his/her local landfill. Yard wastes (grass clipping, leaves, and tree prunings) make up 15% of municipal solid waste (MSW) and food wastes comprise 22%. By composting their kitchen scraps and yard debris, individuals can reduce their waste output by 1/3 or more (*Ontario Ministry of Environment*).
- Ontarians in homes, offices, industries, businesses, etc., throw out over ten million tonnes of garbage a year! Just think: It would take a line of garbage trucks, bumper to bumper, from Windsor, Ontario to Whitehorse, Yukon to hold that much garbage at once (*Ontario Ministry of the Environment, 1991*).

Solutions:

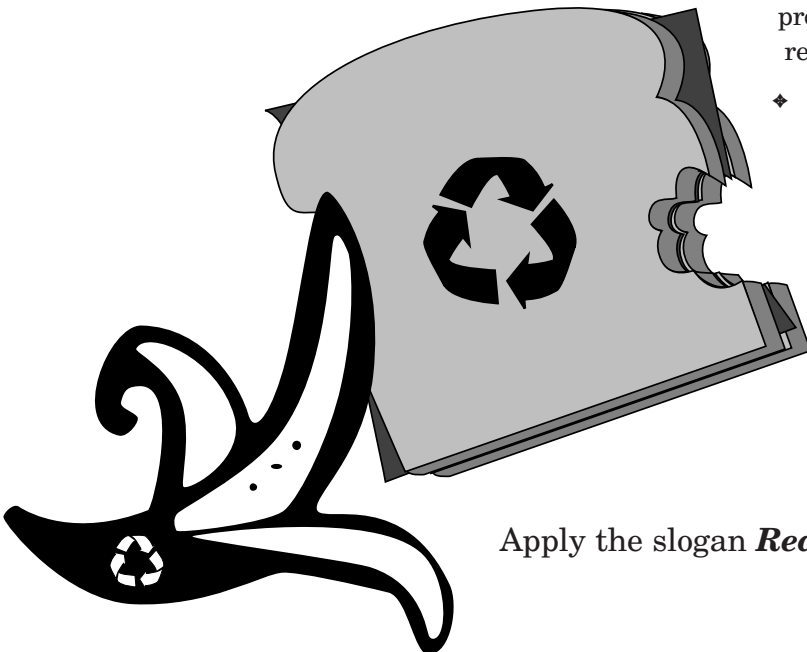
1. Reduce and reuse the food before it makes it to the composter or garbage can. But remember, not all food can be composted (Refer to page 12).
2. Implement a compost program.



1. Reduce and reuse the food first.

- ◆ Encourage participants to generate **LESS** food-related garbage in the first place. **Reduce** the amount of waste you produce by taking only as much as you want. **Reuse** the food by sharing it with someone or eating the leftovers later, and only then **compost** the remainder (*Foster, 1994*).

- ◆ Launch a garbage-free lunch program that will promote the use of reusable lunch bags and reusable food containers.
- ◆ Introduce the value of conservation. If participants can't finish their lunch drinks, sandwiches, etc., they can put leftover food in their reusable containers and save it for later. Or they can take leftover food home, and take small food portions next time.



Apply the slogan ***Reduce, Reuse, and Recycle*** to food waste.

2. Implement a Compost Program.

What's composting? It's nature's way of recycling. Food and other organics decompose with the help of microscopic organisms, insects, and worms. They feed on the organic waste and in the process recycle the nutrients. The result is an earthy-smelling crumbly material called *compost* or *humus*.

Composting can remove a significant amount of mass from the overall waste produced in your organization. If your organization pays for the disposal by the tonne, eliminating food waste could lead to cost savings.

The terrific thing about composting is that it can be done on any scale. You could run a program that includes many rooms, just the cafeteria, or the whole organization. Be clear about your goals and know your limitations. We recommend that you set up a small compost program as a pilot project.

If your organization generates a large quantity of food waste, too much for a few composters to handle, then you can consider having the waste collected and picked up for swill farmers who will turn your leftovers into a gourmet dinner for pigs.

Vericomposting

If you're considering limiting your compost program to one office with a few staff, it's better to use a vermicompost system.

Because of the small amount of food waste produced by a few people in an office, you may not be able to maintain a composter, but could support a small community of worms ready to go to work on recycling your food.

Vericomposting is an indoor compost system that uses worms called *red wigglers* to digest organic material. The worms are kept in a bin with air holes and bedding made up of soil, straw, and compostable food. The bins are specially designed to keep the worms in a dark, moist, well-ventilated environment. Vermicomposting bins vary in size.



Bruce Scott

Vericomposting is not discussed further in this Project Pack.

Contact the Composting Council of Canada, your provincial Recycling Council, or your local government's waste management department for information about vermicomposting. There are also "how-to" books on the subject.

Implementing Your Backyard Compost Program

Bruce Scott



Needs	Instructions
<p>1. Container(s) a. Compost bins b. Containers to hold organic waste as it is generated</p> <p>See funding section for more information</p>	<p>There are two different ways to compost. One uses air, the other doesn't. Aerobic composting, the most common method, use air. Most composters are designed for aerobic composting. Anaerobic composting decomposes waste without air in specially designed containers called digesters.</p> <p>In this project, you'll work with aerobic composting only. When you use air, the compost pile doesn't smell and the organic waste breaks down faster.</p> <p>Make sure you choose the right compost bin; composters come in different shapes and sizes. Some have a bottom door to let you take out finished compost. Pick a composter to suit your site.</p> <p>If you don't want to spend the money to buy a container, make your own. There are different materials you can use and many designs. See the Information Sources section for organizations that can help you.</p>
<p>2. Soil and/or cow or sheep manure</p>	<p>You'll find cow or sheep manure at your local nursery, garden centre, or farm.</p> <p>Use it to make a nutrient rich bottom layer in your compost. But only use manure from herbivores. Manure from carnivores may contain organisms that carry diseases.</p> <p>Use soil to form part of the bottom layer of the compost. (See step 5 to find out how to set up your composter.)</p>
<p>3. Water</p>	<p>Keep your compost moist, but only as moist as a damp sponge.</p>
<p>4. Air & aerating tools</p>	<p>Get air into your compost pile by using a stick, such as a broom handle, a small tool, or a garden hoe.</p> <p><i>* Be careful not to upset the on-going process of decomposition. Gently stir small amounts of the pile, or poke it with the stick.</i></p>
<p>5. Leaves and/or yard trimmings</p>	<p>Leaves and other yard wastes contain nitrogen and carbon — valuable nutrients to the organisms in the compost. Organisms need to maintain a unique balance of carbon and nitrogen (more carbon than nitrogen). So make sure you put in leaves and sticks when starting your compost.</p>

Needs	Instructions
6. A good site	Place your composter where it will get only a little sun and water.
7. Living organisms (supplied by nature)	For the waste to break down, your compost pile needs to host many different organisms. These organisms consume the food and yard waste for energy for energy and nutrients. Just make sure you feed them correctly by putting only compostable items (see page 12) into your pile.
8. Safety: Be aware of health concerns	<p>Don't put fecal matter — other than the described sheep or cow manure — in the compost.</p> <p>Watch for the arrival of unwanted pests, such as mice, rats, raccoons, etc. If they appear, this is an indication that your compost smells and needs to be nursed back to health. Secure lids and fencing to help prevent uninvited guests from getting into the composter.</p> <p>Reduce odours by keeping the pile well aired.</p> <p>Encourage users to ensure that only compostable matter (identified on page 12) is included in the pile.</p>
9. Funding: financial and in-kind	<p>Setting up and maintaining a backyard compost program is an inexpensive waste management method. Expenses include compost bins, waste collection bins, manure, and staff or volunteer time to set up and maintain the composters.</p> <ul style="list-style-type: none"> • Composters (Compost Bins) — If you'd like to buy compost bins, check with your local Public Works Department or provincial Ministry of Environment/ Department to see if they sell subsidized ones. If they don't, then it may be cheaper to make a container from purchased or donated materials. Many hardware stores, gardening centres, and environment stores stock commercially made composters. Prices vary. You may be able to buy from companies directly. Check with your Recycling Council for a list of companies that manufacture and sell composters. <p>The cost of making your own depends on how elaborate a design you want. The basic wooden frame with chicken wire sides is inexpensive. The deluxe, water-proof, solid oak compost enclosure obviously costs more. Look into a variety of designs, and consider your site and intended use.</p> <ul style="list-style-type: none"> • Waste Collection Bins — Save money by making your own containers from used plastic pails and jugs. Containers for kitchens, desk tops, etc., can also be purchased in various colours, shapes, and sizes. Check environment, hardware, and kitchen stores. • Manure — Manure is available at garden supply and farms.

5 Steps to Starting and Maintaining Your Compost Program

Step 1:

We recommend that you first audit the waste generated by those who will be participating in the program (the entire organization, those who use the cafeteria, etc.).

What's a waste audit? It's a technical inventory of the solid waste (organics, recyclables, reusables, and garbage) generated by individuals or by specific groups of people. Waste audits range from simple surveys to complicated descriptions of the types and quantities of generated waste. You can use the results of a waste audit to determine the types and amounts of wastes that can be reduced.

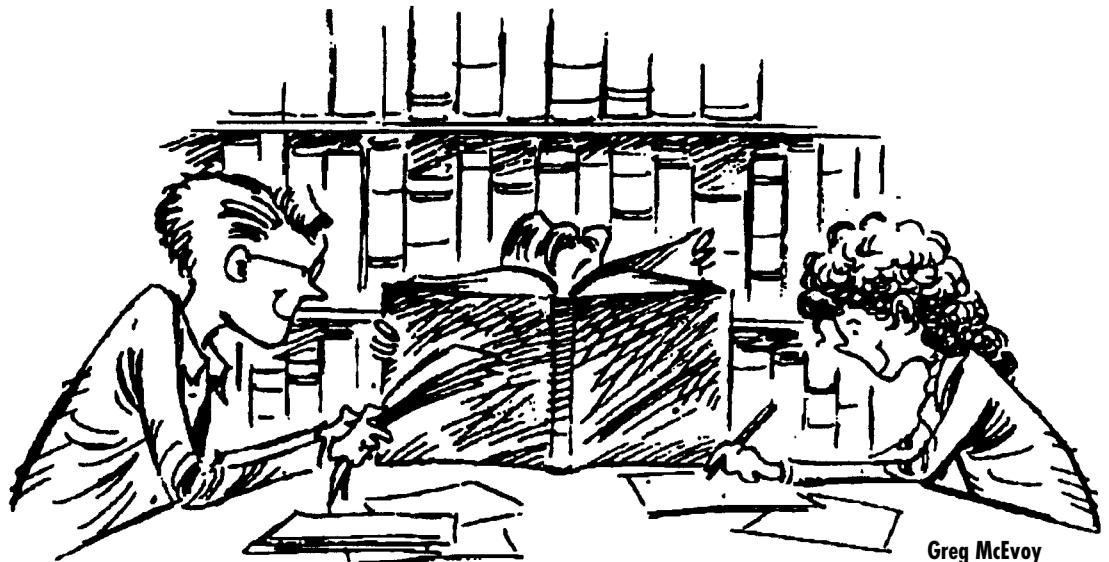
To find out how to do waste audit, contact your Ministry of Environment/Department, your provincial Recycling Council, or look for books on the subject in your library.

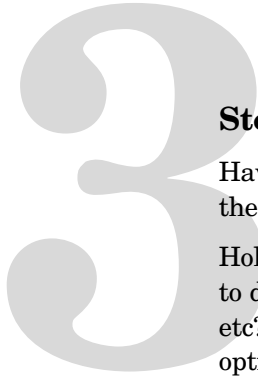
Step 2:

Get your planning committee to discuss the proposed project at the next meeting to determine:

- ◆ level of interest
- ◆ the group's experience with or knowledge on the subject
- ◆ how much time members will commit to the compost program.

If necessary, ask the group to contact your Public Works Department for information on local compost options in the community, and then meet again to decide what your next steps will be.





Step 3:

Have the planning committee discuss the benefits of implementing a compost program. Record the benefits. You will need these as reasons to back up your proposal to supervising authorities.

Hold a brainstorming session to determine the program's goals. You (as a group) want to define the program you will undertake. Will you target the whole organization, one room, etc? Do you want to look after one composter or several? Write down all the elements and options for a compost program, such as the different ways it can be done. Decide how your organization can compost most effectively.

Consider these items to help you define your goals and to examine your program options:

1. Who should participate?
 - ◆ entire organization
 - ◆ one floor, one room
 - ◆ neighbourhood
2. Where is the food and yard waste found?
 - ◆ lunch room
 - ◆ outside areas
 - ◆ offices
3. Who could collect food and/or yard waste?
 - ◆ planning committee members
 - ◆ additional volunteers
 - ◆ custodial staff
4. How could organic waste be collected?
 - ◆ small plastic containers
 - ◆ metal bins, etc.
5. How often would waste be collected?
 - ◆ every lunch hour
 - ◆ after hours
 - ◆ every two days
6. Where would organic waste be collected and stored at?
 - ◆ meeting room
 - ◆ offices
 - ◆ lunchrooms
 - ◆ outside area
 - ◆ custodial room
7. How could the compost get contaminated (i.e. from non-composting items in the compost pile)?
 - ◆ unmonitored access to compost container
 - ◆ ignorance of composting
8. What type of and how much organic waste can be collected for composting? Will you be able to supply the composter with a balance of materials to ensure proper breakdown of organics?
 - ◆ fruits and vegetables from lunches
 - ◆ dust from floors
 - ◆ leaves, sticks, etc.
9. Are there costs?
 - ◆ compost container and starter ingredients
 - ◆ collection bins
 - ◆ collection staff
 - ◆ educational materials
10. Is this an educational experiment? Is it a waste reduction activity?
 - ◆ define long-term and short-term goals

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11. Type of Program:

- ◆ You can **run** a pilot project. A selected section of your organization can participate in a small compost program before it's expanded to include the whole organization. This gives you a chance to judge its success.
- ◆ How about a *willing participant* program where those interested in composting can do so at their discretion? People would have access to composter bins on the organization's property.
- ◆ Or your program can encourage 100% participation by including composting as a part of the waste collection system (with the support of custodial staff). You can promote it with an educational campaign.

12. What objections might the neighbours of area businesses make?

- ◆ might be worried about pests and odours

13. Who will educate program participants?

- ◆ planning committee
- ◆ staff
- ◆ volunteers

14. Who can monitor the composters?

- ◆ planning committee members
- ◆ all program participants

15. How can vandalism to the compost container be prevented after hours?

- ◆ locks
- ◆ Place in a secured area

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Step 4:

Get approval to implement a compost program. Use the results of your research and the brainstorming session to write a brief proposal. Talk to the custodial staff. They know about the organization's waste habits and can help you determine both the amount of work involved and the potential problems. Work with them when planning your program. Approach the appropriate individual(s) for approval.

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Step 5:

Once you have approval, design and implement your program. Make compost education a big component of your campaign. Participants need to be told simply and clearly what to do to participate effectively. Have detailed materials available upon request. You can obtain booklets that explain the composter's ecosystem. Many people may be interested in the process and it may help reduce the chance of contamination if people understand the details of this waste reducing biological process.

Set Up and Maintain Your Composter

Note: Refer to needs list

1. Dig a shallow hole in the ground where your composter will sit. The hole must be deep enough to support the composter so that it stands on its own in all weather conditions.
2. **Optional:** Place a layer of sheep or cow manure on the bottom of the composter.
3. Next, alternate layers of organic waste (food waste, then some soil, etc.). Create a layer of each when setting up the composter and alternate layers from then on as you add to the composter. Complete layers of each type of waste is not crucial. Soil is helpful to include but not always necessary. A combination of kitchen and yard waste is important because of the carbon and nitrogen in the different types of waste. The organisms in the compost pile need a specific ratio of carbon to nitrogen as well as other nutrients.
4. Chop or shred kitchen and yard waste to speed up its decomposition. It usually takes a minimum of three months in the summer for wastes to break down.
5. Remember to keep the compost as moist as a damp squeezed out sponge by adding water as needed or letting it dry out.
6. During the summertime, the compost should be “aired” at least every three weeks. Don’t turn it more than once a week, or you’ll slow down the decomposition process.

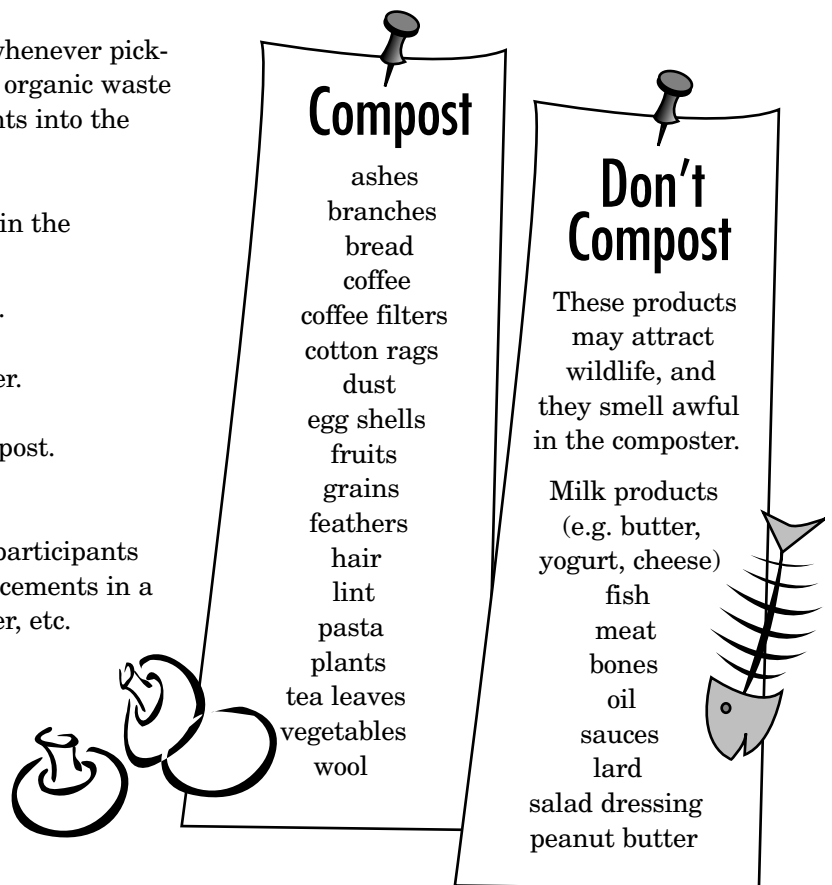
Kitchen waste and green yard waste are high in nitrogen. And brown yard waste (leaves, sticks) supply carbon. Equal amounts of kitchen and yard waste should keep the compost balanced.

Remember: Too much yard waste slows down the compost process; too much kitchen waste gives off an ammonia odour.

Operate Your Compost Program

Keep plastic bins with lids in indoor areas where people eat to hold food and other organic waste. If you are collecting yard material, you will need to place bins in an outside storage area. It's difficult to compost all of the yard waste collected at one time because of the large amount generated. Your composter could not handle it. Store leaves, grass clippings, etc., and add them to the composter as needed to maintain a balance of ingredients.

1. Educate everyone who will be placing organic waste in the bin on what can and can't be composted. This can be done by placing information posters at each composter and collection bin location. Use pictures from old magazines to show examples of items that can be placed in the bins.
2. At the end of each day (or whenever pick-up is scheduled), collect the organic waste bins and empty their contents into the composter.
3. Organize a group to maintain the composter(s). They need to:
 - a) Maintain moisture levels.
 - b) Stir or "air" the compost.
 - c) Empty bins into composter.
 - d) Wash bins
 - e) Harvest the finished compost.
 - f) Educate participants.
5. Watch for contamination! Don't empty food bins with uncompostable items into the composter. Either take out the food (if it's sanitary) or throw the entire contents of the bin in the garbage. You may want to keep track of contaminated bins, and award those that compost correctly.



Harvest Your Compost

There are many ways to separate your finished compost from the rest of the pile. Interested in researching different harvesting techniques? Look for books, organizations, and government offices that can offer advice.

Your compost's decomposition rate depends on a number of factors: the types of waste in it's content, particle size, moisture, oxygen availability, temperature, and weather conditions. If organisms can break down easily, decomposition happens faster. This is why it helps to cut up food wastes into smaller pieces, and chop up sticks and large pieces of wood. Some waste take longer to

break down because of what it's made of. For example, organisms take longer to eat woody material because they find it difficult to digest. But remember, wood contains carbon so it's an important ingredient.

What does finished compost look like? It consists of small, crumbly dark brown particles that look and smell "earthy". Original materials (food and yard waste) should not be identifiable. The compost should be fine, just like the texture of soil. If you have some lumps, don't worry; these lumps won't damage your garden.

Tips for removing compost from your composters

- ◆ Dig out the compost by starting at the bottom of the pile. Try your best to take away as much as you can. Leave unfinished compost behind. The pile will fall lower as you dig.
- ◆ If you have many large chunks of food left in your compost, you can filter them out. Take out the large pieces (larger than 1.5 cm) of food that haven't broken down. Sort through the compost by hand (using gloves for protection), or use a wire screen. If you use a screen, make sure the holes are large enough to let compost fall through and small enough to stop the larger chunks. A wooden frame around the screen will help you grip the screen while you hold and filter the compost.
- ◆ Shake the compost through the screen and into a container or onto newspaper until only large pieces remain. Return these to the composter.

Where to put finished compost

- ◆ Spread compost on your lawn.
- ◆ Dig it into the garden.
- ◆ Add it to the soil and the water of your indoor potted plants.

Solutions to Compost Problems

Problem	Solution
Odours	Pile could be too wet and have too much nitrogen. Add materials with carbon (brown yard waste).
Too Dry	Add water.
Too Wet	Stir and allow air to dry the compost. Add materials that can absorb the water, such as shredded paper, straw, or sawdust.
Not decomposing	Check all your ingredients again to make sure that there is the correct amount of each. In order to decompose, the compost pile needs to reach certain temperatures to provide the proper environment for organisms. Your pile may be large enough to do this. Give yourself time to make the pile larger; then wait for the results (<i>Metropolitan Toronto Works Department, 1991</i>).
No rise in temperature	Your compost should be hot. The temperature will vary depending on the decomposition stage. If your compost is cold, then add waste that contains nitrogen, such as grass (<i>Metropolitan Toronto Works Department, 1991</i>).

Go for it!

Your compost program will reduce the waste your community produces. Get other community partners involved and stage waste reduction competitions.

Neighbourhood compost program

If you'd like to get neighbourhoods involved in a compost program, just apply the steps outlined in this chapter. Contact your Public Works Department. They can assist you in setting up a program that will accommodate a greater number of people and in choosing an appropriate compost site.

Information Sources

1. Check out your local public library for books, gardening magazines, and newspaper articles. Look under composting, gardening, and waste management.
2. Your local Public Works Department and Provincial Environment Department may be able to give you more information or direct you to other sources.
3. Garden centres and local horticultural associations
4. Retailers of composters, garden supplies, etc.
5. Provincial Environment Ministry or Ministry of Agriculture and Food
6. Your provincial Recycling Council may also have books for loan.
An essential source of assistance is the recycling board in your province. They should be able to answer all your questions about waste management or direct you to someone who can.
7. The Composting Council of Canada
16 Northumberland Street
Toronto, ON M6H 1P7
Tel: (416)535-6710 Fax: (416) 536-9892
8. Call The Canadian Environment Network for a list of waste reduction contracts near you:

Canadian Environmental Network
P.O. Box 1289, Stn. B
Ottawa, ON K1P 5R3
Tel: (613) 563-2078 Fax: (613) 563-7236
e-mail: cen@web.apc.org

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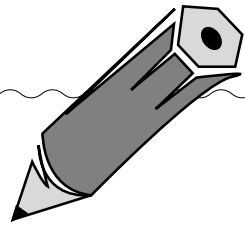
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Notes



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