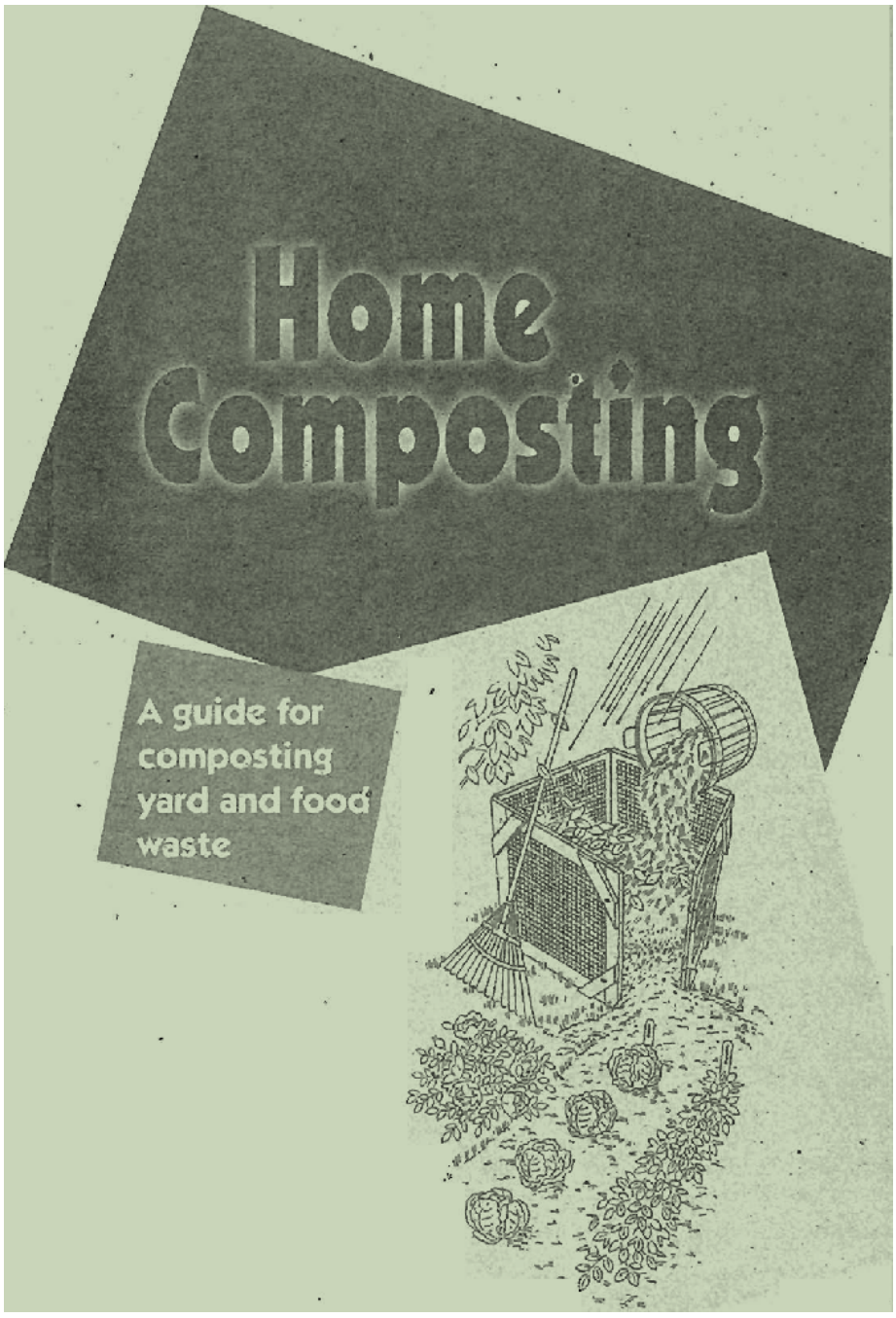

The Commonwealth of Massachusetts

Executive Office of Environmental Affairs

Department of Environmental Protection

What is Composting?

Composting is a controlled process of decomposition of organic material. Naturally occurring soil organisms recycle nitrogen, potash, phosphorus, and other plant nutrients as they convert the material into humus.

Benefits of Composting

Composting is a convenient, beneficial and inexpensive way to handle your organic waste and help the environment. Composting:

- Reduces the volume of garbage requiring disposal
- Saves money for you and your community in reduced soil purchases and reduced local disposal costs; and
- Enriches the soil. Using compost adds essential nutrients, improves soil structure, which allows better root growth, and increases moisture and nutrient retention in the soil. Plants love compost!

What You Should Compost

Yard wastes such as leaves, grass clippings and weeds make excellent compost. All fruit and vegetable scraps, plus food wastes such as coffee grounds, tea bags, and eggs shells can be composted. To keep animals and odors out of your pile, do not add meat, bones, fatty food wastes (such as cheese, grease, and oils), dog and cat litter, and diseased plants. Do not add invasive weeds and weeds that have gone to seed.

How to Use Compost

When the composed materials look like rich, brown soil, it is ready to use. Apply one-half to three inches of finished compost and mix it in with the top four inches of soil about one month before planting. Compost can be applied as a top dressing in the garden throughout the summer. Compost is excellent for reseeding lawns, and it can be spread one-quarter inch deep over the entire lawn to rejuvenate the turf. To make potting soil, mix equal parts compost, sand and loam. You may put the compost through a screen to remove large particles - these can go back into the pile.

Mulching

Grass clippings, leaves, and woody yard wastes can be used as mulch in gardens and around shrubs to keep the soil moist, control weed growth and add nutrients. Woody materials should be chipped or shredded. Use a mulch of pine needles around acid-loving plants. Leaves will work first as mulch, then as a soil enricher as they decompose. Grass clippings should be dried before using as mulch. Do not mulch with grass clippings which have been treated with herbicides; composting them first, however, will break down most herbicides.

Composting Without a Yard

Composting can be done indoors using an earthworm farm. Not only can you recycle your food scraps, you can also have a steady supply of fishing bait! For more information, call DEP's Recycling Program.

Elements of a Good Compost Pile

With these principles in mind, you can convert your organic wastes into resources by turning your spoils to soil.

The Biodegraders

Nature has provided an army of workers who specialize in decomposing organic material. These "critters" – bacteria, fungi, molds, earthworms, insects, and other soil organisms - eat all types of organic material and in the process convert nutrients into a form plants can utilize. Without those compost critters, we would be surrounded by mountains of leaves and the soil would be barren. The process of composting is simply a matter of providing the soil organisms with food, water, and oxygen. They do the rest.

Organic Material

Organic material contains varying amounts of carbon and nitrogen which nourish the organisms naturally present in your compost pile. (Billions of bacteria inhabit the surface of every leaf and blade of grass in your yard.) The critters need both carbon and nitrogen. An easy way to provide both of these is to remember that brown, woody' materials, such as autumn leaves, are high in carbon while green, moist materials, such as grass clippings, are high in nitrogen (refer to the table on the back of this brochure). Use approximately three parts "brown"' material to one part "green" material to optimize the composting process and prevent odors from developing. This recipe will yield finished compost in three to eight months. Leaves alone break down in six to 15 months. Grass clippings or food scraps composted alone result in unpleasant odors because they contain more nitrogen than the compost organisms, can use. Mix leaves, straw, or shredded newspaper with green material, or let it dry until it turns brown before composting it alone.

Air

The compost critters need oxygen, just as we do. Lack of oxygen will slow down the composting process and cause odors. Turn your pile, fluff it with a hoe or compost turning tool or build air passages into the pile with cornstalks to provide oxygen to the organisms.

Moisture

Compost organisms need a moist environment. The pile should be as damp as a wrung-out sponge, but not dripping wet. Make sure leaves are damp when you add them to the compost pile because they will not break down if they are dry. Since moisture evaporates as the pile heats up (a sign of active composting), let rain and snow replace it, or add water during dry spells. A cover helps retain moisture in hot weather.

Composting Bins

New Age Composter
The New Age Composter and Earth Machine Composter are rodent-resistant bins distributed through DEP's recycling grant program.

Turning Bins
A series of three or more bins allows you to make compost in a short time by turning the materials on a regular schedule.

Barrel Bin
These bins can easily be made from plastic garbage cans.

Wire Bin
Wire bins can also be made for composting.

How to Make a Compost Pile

There are as many different ways to make compost as there are people who do it. The following guidelines will get you started, but soon your own experiences will help you tailor a method that best fits your needs.

1. **Build or purchase a compost bin.** Check to see if your community has a composting bin distribution program, or order from a garden catalogue, nursery or hardware store. Enclosed compost piles keep out pests, hold heat and moisture in, and have a neat appearance. Or, bins can be simply made of wire, wood, pallets, concrete blocks, even garbage cans with drainage holes drilled in them. In urban areas, rodent-resistant compost bins - having a secure cover and floor and openings no wider than one-half inch must be used.

2. **Set up the bin** in a convenient, shady area with good drainage. A pile that is about three feet square and three feet high will help maintain the heat generated by the composting organisms throughout the winter. Although a smaller pile may not retain heat, it will compost.

3. **Start the pile** with a layer of coarse material such as corn stalks to build in air passages. Add alternating layers of "brown" and "green" materials and mix them together. Sprinkle with soil every 12 inches. Be sure to bury food scraps in the center of the pile. If you don't have "brown" and "green" materials on hand at the same time, build your pile with "browns" and mix in "greens" as they become available. Shred leaves or run over them with a lawn mower to shorten the composting time. Save several bags of leaves to add in the spring and summer when "browns" are scarce.

4. Add water as you build the pile if the materials are dry. *Keep the composting material damp* or it will not decompose.

5. As time goes on, keep oxygen available to the compost critters by fluffing the pile with a hoe or compost turning tool each time you add material. A complete turning of the pile - so the top becomes the bottom - in spring and fall should result in finished compost within a year. More frequent turning will shorten the composting time.

High Nitrogen
"Green" Ingredients

- Grass clippings
- Weeds
- Food wastes: fruit & vegetables, coffee grounds, tea bags, egg shells
- Manure (cow, horse, chicken, rabbit)
- Seaweed
- Alfalfa hay/meal
- Blood meal

High Carbon "Brown" Ingredients

- Autumn leaves
- Straw
- Cornstalks
- Paper/cardboard: paper towels, napkins, bags, plates, coffee filters, tissue and newspaper
- Wood chips
- Sawdust
- Pine needles

Where to Get More Information

In cooperation with the Massachusetts DEP, the State of Connecticut has produced a video entitled *Turning Your Spoils to Soils,* which is available in most local libraries in Massachusetts. DEP's Recycling Program also provides technical assistance and reference materials on composting, and can be reached at (617) 292-5834. Or, visit our website at www.state.rna.us/dep