

BACKYARD COMPOSTING

Nature's Way
of Recycling



from the N.H. Department
of Environmental Services

What is compost?

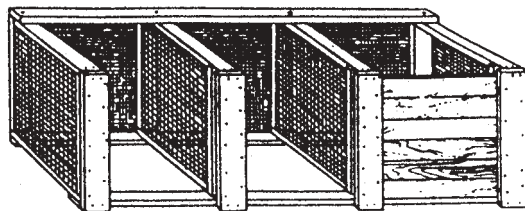
Composting is nature's way of recycling. Composting is a natural process of decomposition of organic material into a rich soil amendment.



Why should I compost?

There are two basic reasons for composting. The primary reason people compost is to create a beneficial product from what is traditionally viewed as a waste. Gardeners have long known this secret. By composting leaf and yard waste, gardeners create a useful soil amendment to be incorporated into flower and vegetable gardens, used as a mulch around trees or as a top dressing on lawns.

The second reason is that it is beneficial to the environment. Composting is done to reduce the amount of waste that makes its way to New Hampshire's landfills and incinerators.



What can I compost?

The following lists are a guide to the types of materials that are good and not good to compost. To produce the best quality compost, material thicker than 1/4" should be shredded or chopped.

USE

leaves
lawn clippings
pine needles
weeds
straw
hay
sawdust
wood ashes
shredded newspaper
animal manures
coffee grounds
fruits & vegetables
crushed eggshells

DON'T USE

meats
bones
fatty foods
oils
dairy products
colored newspaper
coal ashes
dog or cat wastes
pressure treated wood
plywood
anything not bio-degradable

How can I use compost?

Compost can be applied to enrich the flower and vegetable garden, to top-dress the lawn, and as mulch around trees and shrubs. House plants and planter boxes will benefit from combining compost with potting soil.

Before using, it's best to sift the compost through a 1/2" mesh hardware cloth. The remaining coarse material may then be put back into a new compost pile for further decomposition.

Heavy clay or light sandy soil will benefit most from the addition of compost. Apply a 2" layer on the soil surface and thoroughly work it into the upper six to eight inches of soil.

HOW DOES COMPOSTING WORK?

Biology

Organic waste material decomposes through the actions of the soil micro-organisms. They start the process of decaying matter by breaking down plant tissue. Soon, fungi and protozoans join in and later centipedes, millipedes, beetles and earthworms do their part. These micro-organisms work best when sufficient oxygen, moisture and nitrogen are supplied.

Materials

Anything growing in the yard – leaves, weeds, grass clippings, kitchen waste (except meat, bones, dairy products, and fatty foods) – is potential food for the tiny micro-organisms working in the pile. Avoid using diseased plant materials.

Surface Area

Material decomposes faster if the micro-organisms have more surfaces with which to work. Chopping garden waste with a shovel, running it through a shredding machine or lawnmower, speeds its composting.

Size

The ideal size for the pile is four feet wide and four feet high by any convenient length.

Smaller piles have trouble holding heat and larger piles may have aeration difficulties.

Moisture and Aeration

The microbes work best when the pile is as moist as a wrung-out sponge and has plenty of air passages. Too much sun will dry out the pile and too much water will make it soggy.



Time and Temperature

The hotter the pile, the faster the composting. Ideal composting temperatures range from 100°F-140°F. With proper amounts of water, air, and materials, compost can be made in two to three months.

Carbon to Nitrogen Ratio

All living organisms need relatively large amounts of the element carbon (C) and smaller amounts of nitrogen (N). To speed composting, combine carbon-rich “brown” materials such as leaves with nitrogen-rich “green” materials such as grass clippings. The ideal compost combination is 30 parts carbon to one part nitrogen.

For more information

Refer to the guide *Composting to Reduce the Waste Stream* published by the UNH Cooperative Extension and available at all New Hampshire public libraries. For more information, please contact the University of New Hampshire Cooperative Extension Family, Home and Garden Education Center toll-free at 877-398-4769, or contact the N.H. Department of Environmental Services, 29 Hazen Drive, Concord, NH 03302-0095. Information is also available at your local lawn and garden centers.

What's wrong with my compost?

Symptom: The compost has a bad odor.

Problems: Not enough air; pile too wet.

Solutions: Turn it; add coarse materials such as straw, corn stalks, etc.

Symptom: The center of the pile is dry.

Problems: Not enough water; too much woody material.

Solutions: Turn; moisten; add fresh green wastes; chop coarse wastes.

Symptoms: Compost is damp and warm only in the middle.

Problem: Pile too small.

Solutions: Get more material; mix old ingredients into a new pile.

Symptoms: The pile is damp and sweet-smelling, but won't heat up.

Problem: Lack of nitrogen.

Solutions: Mix in a nitrogen source such as food waste, fresh grass clippings, fresh manure, bloodmeal or ammonium sulfate.

Symptoms: Pest problems – birds, animals, rats, dogs, etc.

Problem: Undesirable food wastes.

Solutions: Remove any fish, meats, bones or dairy products. Be sure to cover or bury vegetable scraps.

COMPOSTING YARD WASTES

Selecting a Method

Your compost pile can be a simple heap of materials in a corner of your yard, or a bin to help organize the pile and keep it from blowing around your yard. Ready-made and easy-to-assemble bins can be purchased at local hardware and garden supply stores. Many people prefer to use their own method or create a bin themselves. There are many different types of methods or units to choose from.



Heaps/Piles

What are they? Heap composting doesn't require a structure. It is simply a pile placed in your yard.

How? Combine organic materials together in a heap/pile measuring about five feet wide and three feet high. Materials may be added as they become available, or stockpiled until enough materials are available to make a good-sized heap. Water to the damp sponge stage. The pile may be turned regularly or not at all.

Pros/Cons? This is the least expensive method, but if no turning is done, composting will take many months.

Mulching

How? Spread leaves and grass clippings around the base of plants a few inches from the stem. Chipped woody waste can be used as mulch around trees and shrubs.

Pros/Cons? Yard waste works first as mulch then decomposes into a soil amendment. The disadvantage is you have to buy or rent power equipment to chip woody wastes.

Variations: Chipped materials can be used to make informal garden paths.

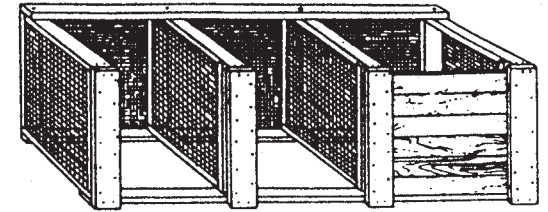
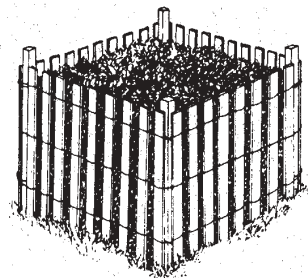
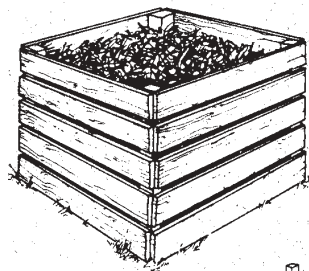
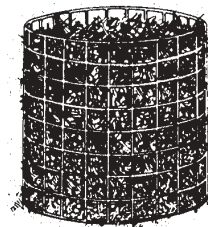
Holding Units

What are they? Simple containers or bins that hold yard and garden waste until composting is complete.

How? Add organic material to the holding unit as it is generated. The composting process can be hastened by chopping or shredding organic materials, mixing high-nitrogen and high-carbon materials, maintaining proper moisture, or turning the pile.

Pros/Cons? Holding units are easily made and are a relatively inexpensive method of composting. Composting may take six months to two years, depending upon the organic materials and conditions present.

Variations: Possible holding units are circles of wire fencing or hardware cloth, old wooden pallets wired or tied together, snow fencing or wire framed in wood. In any case, the unit should be constructed to allow air transfer through the sides and back.



Turning Units

What are they? A series of three or more bins, or a rotating barrel/rolling ball that allows wastes to be turned regularly. This unit works well for gardeners with a large volume of yard waste, or for those requiring faster composting.

How? Layer alternately high-carbon and high-nitrogen materials in a 30:1 ratio. Moisten to the damp sponge state. When the temperature of the pile decreases substantially, turn it into the next bin. Again, dampen if not moist and add high-nitrogen material if heating doesn't occur. After the pile heats and cools again, turn into the third bin. The compost should be ready for use after two weeks in the third bin.

Pros/Cons? Produces a high-quality compost in a short time with a large amount of care and labor. Units may be expensive to build or buy.

Variations: Turning units may be built of wood, concrete blocks, or a combination of wood and wire. There are also barrel/rolling ball composters that tumble the wastes.

Where to find compost bins

Contact your local recycling center/transfer station or recycling committee about your town's involvement with the annual compost bin sale.

Compost bins can also be purchased from local home and garden centers.

COMPOSTING FOOD WASTES

Selecting a Method

Just as there are a variety of methods used to compost yard wastes, there are several methods for composting food wastes. The N.H. Department of Environmental Services permits kitchen wastes to be composted at the same location that they are generated. This means that you can compost your own kitchen wastes in your own backyard. Food waste can be composted along with yard wastes using the methods listed above. The methods outlined below show different techniques that can be used specifically for composting food waste.

Soil Incorporation/Trench Composting

How? Burying your organic waste is the simplest method of composting. Bury everything at least eight inches below the surface. Fill and cover the hole. This can become planting space next season.



Which Wastes?

Kitchen scraps, *excluding* bones, meat, dairy or fatty foods.

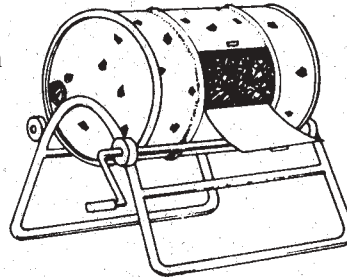
Pros/Cons? A simple method but the absence of air means some nutrients are lost. Rodents and dogs may become a

problem if the waste isn't buried at least eight inches.

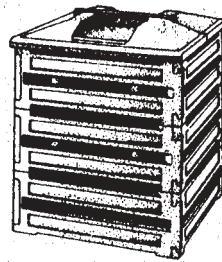
Using an Outdoor Bin

How?

Composting vegetative kitchen wastes in a holding or turning unit is similar to composting yard wastes except it requires additional management to avoid attracting wild animals, such as raccoons and skunks. The following are some suggestions for avoiding problems.



- Steer clear of food wastes that are high in protein and fat, such as meats, oils, fish, table scraps and dairy products.
- Chop materials into small pieces to encourage faster composting.
- Turn kitchen wastes into the center of the pile as they are added.



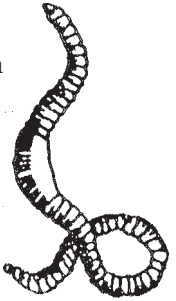
- Turn the compost pile frequently.
- Add pest-proof sides and a cover to your bin.
- Check with your local hardware store or garden center for special bins designed to hold food wastes and keep pests out.
- If these precautions do not prevent pest problems, kitchen wastes should not be placed in the pile or bin.

Pros/Cons? This is a great method for reducing your household wastes while creating high-quality soil. However, more effort is required to avoid attracting pests.

Red Worm Composting

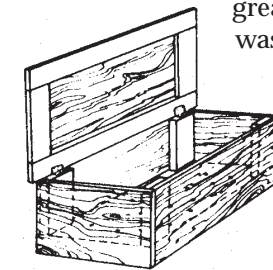
What is it? Feeding red worms is a great way to make high-quality compost.

How? Use a bin approximately two feet by three feet with solid sides, drainage holes and a tight fitting lid. (Drainage holes are necessary to keep the soil from becoming soggy. Bins are normally placed in the basement or garage.) Fill the bin with moistened bedding made of shredded newspaper, peat moss or cardboard "bedding." Add a pound or more of red worms. Bury your food wastes throughout the bin where the worms will gradually eat it and turn it into rich compost.



Which Wastes? Kitchen scraps excluding bones, meat, dairy or fatty foods.

Pros/Cons? Kitchen wastes can be composted indoors year-round while avoiding pest problems at the same time. Feeding red worms is a great way to convert food wastes into high-quality soil for house plants, seedling transplants, or general garden use. You will also have plenty of worms for fishing.



Variations: A stationary outdoor bin can be used

in all but the coldest months, or a portable indoor/outdoor bin can be used year-round.

Where to Find Worms & Worm Bins

The following companies provide worms and worm bins: Flowerfield Enterprises, Kalamazoo, MI, (616) 327-0108; Gardener's Supply, Burlington, VT, (802) 660-3500; and RecycleIt Corporation, Bend, OR, (800) 769-1044.