

# Backyard Composting

COLLEGE OF AGRICULTURAL, FOOD, AND ENVIRONMENTAL SCIENCES

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Laws that limit dumping leaves and clippings into public landfills have reawakened public interest in composting.

Composting is a process that allows naturally occurring microbes to convert yard waste, such as leaves and grass clippings, to a useful organic soil amendment or mulch. Gardeners have used compost for centuries to improve the physical condition of soil and to add some of the nutrients needed for plant growth. Incorporating compost into light, sandy soil helps it hold both moisture and nutrients, while adding it to heavy soil improves drainage.

To produce compost efficiently from yard waste several conditions must be met. The microorganisms responsible for decomposition need oxygen, water, and nitrogen. Particle size also affects efficiency. The smaller the plant pieces, the more rapidly they will break down. Use a shredder or power mower to chop up leaves and small twigs before adding them to the pile.

## Composting Structures

To save space, keep your yard looking neat, and speed composting time, plan to contain your compost in some type of structure. Typical dimensions of a compost pile are 5' x 5'. Simple bin-type structures can be built from woven wire fencing and metal posts. More permanent and elaborate structures can be made from rot-resistant wood, wire, and metal posts.

For a more detailed discussion of composting yard wastes, see *Composting and Mulching: A Guide to Managing Organic Yard Wastes*, FO-3296, for sale at your local University of Minnesota County Extension Office, or from the University of Minnesota Extension Service Distribution Center, 20 Coffey Hall, 1420 Eckles Ave., St. Paul, MN 55108-6069.

## Locating Your Compost Pile

Locate your compost pile close to where it will be used so it won't interfere with activities in the yard or offend neighbors. The pile will work best where it is somewhat protected from drying winds, yet receives partial sunlight to help heat it.

## What Can Be Composted?

Many organic materials can be composted besides grass and leaves: nonwoody shrub trimmings or twigs less than 1/4 inch in diameter, faded flowers, weeds, leftover plants at the end of the gardening season, lake plants, straw, coffee grounds, eggshells, fruit and vegetable scraps, shredded newspaper (black and white print), small amounts of wood ash, and sawdust. Sawdust requires the addition of extra nitrogen; wood ash raises compost alkalinity and may result in nitrogen loss from the pile.

There should be little need to compost grass, since clippings may be safely left on the lawn if you mow regularly and remove only 1/3 of the blade length each time. If you do compost grass, mix it with other yard waste. Grass clippings, alone, pack down and restrict airflow which limits the availability of oxygen that is needed for decomposition.

Some things should NOT be composted. Pet feces can transmit diseases. Meat, bones, grease, whole eggs, and dairy products attract rodents and other animals. Badly diseased or insect-infested plants and weeds that are loaded with seed may not heat up enough to be rendered harmless.

## Preparing Your Compost Pile

Build your compost pile in layers. Begin with eight to ten inches of leaves, grass, or plant trimmings. Water it to the point of being moist, but not soggy. Then add a nitrogen source, such as ammonium nitrate, ammonium sulfate, or an inexpensive high nitrogen lawn fertilizer without herbicide.

Sprinkle the pile with 1/3 to 1/2 cup of fertilizer per 25 square feet of surface area (a 5' x 5' bin). If you live in a rural area and have access to livestock manure, you can use a two-inch layer of manure as your nitrogen source.

You may choose to add a one-inch layer of soil or completed compost over the nitrogen to increase the number of decomposing microbes in the pile. However, most leaves and plant scraps have enough micro-organisms to get the job done without the addition of soil or compost.

Repeat these layers until the pile reaches a height of five feet, watering each time you add new layers.

## Liming

It is normally not necessary to add lime to your compost pile to improve the breakdown of most yard wastes. Finished compost is usually slightly alkaline. If you add lime during the decomposition process, it will probably be too alkaline when completed. If your pile contains large amounts of acidic materials such as pine needles or fruit wastes, you might add lime, but no more than one cup per 25 cubic feet of material. Excessive lime application can lead to loss of nitrogen from the compost pile.

## Maintaining Your Compost Pile

An active compost pile will heat to somewhere between 130 and 160 degrees Fahrenheit. As the center cools, turn the pile to help speed decomposition and minimize any objectionable odors. You will need to do this once or twice a month. Continue to water your compost pile periodically to keep it moist but not soggy. You can add a little fresh material when you turn the pile, but generally, you're better off beginning a new pile.

A well-managed compost pile will be ready in two to four months in the warm season, whereas an untended pile will take a year or more to decompose. When completed, your compost pile will be about half its original height, and will have a pleasant, earthy smell.

There are many structures for composting; no one structure is best. For a more thorough description of different structures, refer to *The Complete Book of Composting* by J.I. Rodale, Rodale Books, Inc. It should be available at many public libraries.

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