



Compost Basics

Composting is the decomposition of plant remains and other once-living materials to make an earthy, dark, crumbly substance that is excellent for enriching garden soil. It is the way to recycle your yard and kitchen wastes, and is a critical step in reducing the volume of garbage needlessly sent to landfills for disposal. There are many different composting methods; find the one that works best for your lifestyle.

Why Compost?

*Soil Conditioner: Adding compost to your soil helps it retain water better, loosens up heavy soils, and improves nutrient availability to plants and improves plant health.

*Recycles kitchen and yard waste: Composting can divert as much as 30% of household waste away from the landfill.

*Introduces beneficial organisms to the soil: Microscopic organisms in compost help aerate the soil, break down organic material to feed plants and ward off plant disease. Composting offers a natural alternative to chemical fertilizers.

The Essentials of Composting

With these principles in mind, everyone can make compost. As published online at: <http://www.urecycle.org/composting/composting-in-your-home/how-to-compost>

BIOLOGICAL PROCESS

The compost pile is really a teeming microbial farm. Bacteria, the most numerous and effective composters, are the first to break down plant tissue. Fungi and protozoans soon join the bacteria and, somewhat later in the cycle, centipedes, millipedes, beetles and earthworms all do their parts. All this activity actually heats up the pile, which further aids the decomposition process.

MATERIALS

Anything growing in your yard is potential food for these tiny decomposers. Microorganisms use the CARBON in leaves or woodier wastes as an energy source. NITROGEN from grass or green materials provides the microbes with the raw element of proteins needed to build their bodies and multiply. (The more decomposers there are, the faster the compost pile will break down.)

Materials with a higher carbon content include "brown" materials like dried leaves, dried weeds, straw, sawdust, wood chips, or sticks/branches. Materials that have a high nitrogen content include "green" items like fresh grass clippings, green weeds, cow or horse manures, and fruit and vegetable trimmings from the kitchen.

What's the "best" recipe for compost? It depends! But a good rule of thumb is to build a pile that has about 50% green materials and 50% brown materials (by weight). Adding some garden soil to the compost pile can help to add a starter population beneficial microbes.

SURFACE AREA

The more surface area the microorganisms have to work on, the faster the materials will decompose. Chopping, shredding, or chipping garden wastes before adding them to your compost pile will help speed up the decomposition process.

MOISTURE AND AIR

The microbes in a compost pile, need a certain amount of water and air to sustain themselves. Microbes function best-and composting happens the fastest-when the compost heap is about as moist as a wrung out sponge. It is usually necessary to add water to the compost pile to keep the decomposition process going. But if your pile is too dense or becomes too wet, the air supply to the inside is cut off and the beneficial organisms die. Decomposition will slow and an offensive odor may arise. To avoid this and speed the process, turn and fluff the pile with a pitchfork often, perhaps weekly.

VOLUME

A large compost pile will insulate itself and hold the heat given off by decomposers. The pile's center will be warmer than its edges. The ideal compost pile size is 3' x 3' x 3' (one cubic yard). Piles smaller than this will have trouble holding this heat, while piles larger than 5 feet on a side don't allow enough air to reach the decomposers (microbes) at the center.

Note: These proportions are only important if your goal is to make compost quickly. Slower composting requires no exact proportions.

What to Compost

Just about anything that once grew in your yard can be composted.

GREEN MATERIALS (Nitrogen Rich):

- Fresh weeds
- Fresh plants and green prunings
- Grass clippings
- Manure or animal cage cleanings-horse, cow, rabbit, chicken (Note: Do not compost cat or dog droppings.)
- Fruit and vegetable trimmings from the kitchen or garden
- Human or animal hair

BROWN MATERIALS (Carbon Rich):

- Fallen leaves
- Dry weeds, grass
- Wood chips, Chopped prunings, twigs, saw dust
- Hay or straw,
- Wood ashes (cold)

THESE MATERIALS CAN ALSO BE COMPOSTED:

- Egg shells
- Old flower bouquets
- Coffee grounds (and filters), tea bags
- Paper towels, paper napkins, cardboard
- Natural fiber cloth (100% wool or cotton)

What Not to Compost

To avoid problems with disease, odors, pests, reseeding, or slowing down the compost process, don't put any of these items in your pile.

- Invasive weeds that spread by roots/runners — e.g. crabgrass, bamboo
- Weed seeds
- Black walnut tree leaves or twigs (Releases substances that might be harmful to plants)
- Diseased or insect-ridden plants
- Yard trimmings treated with chemical pesticides (Might kill beneficial composting organisms)
- Meat, fish, dairy products, bones, fats
- Processed foods
- Large branches or pieces of wood
- Pressure treated woods
- Bar-b-que or coal ashes
- Dog, cat or human wastes
- Materials with thorns or spines-e.g. rose branches, cactus

Compost Helpful Hints

LOCATION, LOCATION, LOCATION

Place your compost pile in a convenient place-close to a water source. Don't put piles under the eaves of your house-when it rains, you'll drown your pile.

GRASS CLIPPINGS

Take care with fresh grass clippings. Add them in thin layers, or mix them with brown material when adding to the pile. Or dry them, before adding.

FEAST AND FAMINE?

In the fall, homeowners have a lot of leaves (browns), but little green material. And in the summer, there is a lot of grass, but few brown materials. Many people start a pile for just leaves in the fall. They will start to decompose-but slowly. Then in the spring and summer months, the partly composted leaves are gradually mixed in with the grass clippings.

CHOPPING AND CHIPPING

It helps speed up the composting process if you can shred, chop, or chip materials-especially woody items, before adding to the pile.

WHEN IS IT DONE?

Finished compost is a dark brown, uniform, crumbly product with a pleasant, earthy aroma. There may be a few woody pieces that aren't completely composted-just toss them back into your new pile.

USES OF COMPOST

Compost can be used as a soil conditioner when dug into the soil in flower beds or vegetable gardens. It can also be used as a mulch on top of the soil. You can add some to your container plants as well.

How to Compost: There are a number of different ways to compost. The main things to consider are how much time you have to spend managing the pile, how much green waste your yard generates, and how quickly you want to have finished, usable compost. Here are two common methods.



HOLDING UNITS (THE "NO FUSS" METHOD; ALSO KNOWN AS "ADD AS YOU GO")

This method uses one pile or bin — as a "holding unit" to contain garden wastes. This is also sometimes called the "static pile" method, because you don't turn the pile very much.

Holding units, or static piles, are the least labor and least time-consuming way to compost.

HOW IT WORKS

- Build, or purchase, a bin—approximately three feet square. Or just start a pile.
- Fill it up, as materials are available.
- Note: Take care not to add fresh grass clippings in large layers. Let clippings dry first, or mix with other materials.
- Water pile occasionally
- When bin is full, start a new pile
- To finish composting, it helps to remove bin and turn pile
- Or, just take material from the bottom of the pile

ADVANTAGES:

- Low maintenance, little turning required
- Doesn't take much time or effort
- Good for lower volumes of material

DISADVANTAGES:

- Slower method
- Seeds and diseases won't be sterilized
- Hard to compost brushy, woody materials



TURNING UNITS (THE "ACTIVE PILE" METHOD)

Turning units are a series of three or more bins that allow garden wastes to be turned on a regular schedule. Turning units are appropriate for gardeners who have a larger volume of materials and/or want to produce compost faster.

HOW IT WORKS

- Get two or three bins ready. Each bin should be about one cubic yard in size.
- Fill one bin, layering green materials with brown. Try for 50% green, 50% brown.
- Water the pile as you add layers. Should be like a damp sponge.
- Pile will probably heat up. When it cools down—after a few days or a week, turn the pile into an empty bin and water again.
- Continue turning until pile no longer heats up and materials decomposed.

ADVANTAGES:

- Good for larger volumes of garden trimmings
- Produces compost quickly
- Sterilizes weed seeds and some plant diseases
- Better for woody materials

DISADVANTAGES:

- Requires greater amount of time to manage—piles are turned and watered regularly
- Must accumulate about one cubic yard of material before building pile—in order to get the pile to heat up.

How to Tell When it's Done

Your compost is finished when the original material has been transformed into a uniform, dark brown, crumbly product with a pleasant, earthy aroma. There may be a few chunks of woody material left; these can be screened out and put back into a new pile.

You may want to stop adding to your compost pile after it gets to optimal size (see above) and start a new pile so that your first pile can finish decomposing (during which time the temperature will drop).

Give it a Try! Home composting is best learned by doing. Through practice and observation you will find what works best for your home situation, and you can modify the process to suit your needs. There are also a number of books written on backyard composting; check your local library or bookstore. Also check with your local government for workshops, handouts, or guides on composting.

TROUBLE SHOOTING GUIDE

Problem	Pile has a rotten or ammonia type smell
Reason	Not enough air, or too much moisture. An ammonia smell indicates too much nitrogen (green) material relative to carbon
Solution	Turn the pile and add more dry (brown) material
Problem	Critters or fruit flies
Reason	Fruit and vegetable trimmings are too close to the surface
Solution	Make sure to bury these materials under a thick layer of brown materials and/or soil
Problem	Pile not decomposing
Reason	The pile may be too dry, or not have enough green materials, or materials could be too large
Solution	If dry, add water. May need to add more green materials, or chop all materials up smaller