

US EPA ARCHIVE DOCUMENT

# Backyard Composting

## IT'S ONLY NATURAL

Composting is nature's way of recycling organic materials back into the soil in order for the cycle of life to continue. The billions of living organisms in healthy soil transform dead plants into vital nutrients for new plant growth. Since healthy plants come from healthy soil, one of the best ways you can build healthy soil in your garden and lawn is by using compost. You can easily make compost with landscape trimmings and food scraps in your own backyard. With a small investment in time, you can improve the health and appearance of your yard, save money on fertilizers and mulch, all while preserving natural resources and protecting the health of your family and pets.



### Why compost?

- ❁ **It's earth-friendly:** Food scraps and yard waste make up 20-30% of the waste stream. Making compost keeps these materials out of landfills, where they take up precious space and release methane, a greenhouse gas 21 times more potent than carbon dioxide emissions in the atmosphere.
- ❁ **It benefits your yard:** Compost improves soil structure and texture, increases the soil's ability to hold both water and air, improves soil fertility, and stimulates healthy root development in plants.
- ❁ **It's easy:** You can start with just leaves and grass, then work your way towards composting your food scraps.
- ❁ **It saves money:** Adding compost to your garden can reduce or eliminate the need to buy chemical fertilizers or compost. If you pay for the amount of trash hauled, composting can also cut down on your trash costs.



### What do I need to do to make compost?

- A Bin or Pile?** Some people start with an easy pile, and then move to a bin when they're ready. You can give your pile some structure with chicken wire, snow fencing, or by nailing scrap wood together to make a four-sided box. A pile works great for just leaves and grass clippings, but when you want to incorporate food waste, it's time to use a bin to prevent rodents. Closed-top bins include turning units, stacking bins, and bins with flip tops. Many communities provide their residents free or discounted bins to encourage backyard composting. Bins can also be purchased from retail or mail order businesses. Take the time to consider your options and then select a bin or pile to fit your needs.
- B Space.** Select a dry, shady, or partly shady spot near a water source and preferably out of sight for your compost pile or bin. Ideally, the compost area should be at least three feet wide by three feet deep by three feet tall (one cubic yard). This size provides enough food and insulation to keep the organisms in the compost warm and happy and working hard. However, piles can be larger or smaller and work just fine if managed well.
- C Browns for carbon, greens for nitrogen, air for organisms, and water for moisture.**

Brown material provides carbon and includes:

- ❁ Paper, like shredded pieces of paper, cardboard, and paper rolls,
- ❁ Dry yard waste, like dry leaves, small branches, and twigs, straw, sawdust, and used potting soil.

Green material provides nitrogen and includes:

- ❁ Wet yard waste like fresh grass clippings, green leaves, and soft garden prunings
- ❁ Food scraps like vegetable and fruit peels, coffee grounds, and tea bags.

**Vermicomposting** is a method of composting using a special kind of earthworm known as a red wiggler (*Eisenia fetida*), which eats its weight in organic matter each day. Vermicomposting is typically done in a covered container with a bedding of dirt, newspaper, or leaves. Fruit and vegetable scraps can then be added as food for the worms. Over time, the food will be replaced with worm droppings, a rich brown matter that is an excellent natural plant food. Vermicomposting requires less space than normal composting methods, and is therefore ideal for classrooms, apartments, and high-density urban areas.



## How do I make compost?

- 1 Add your brown and green materials (generally three parts browns to one part greens), making sure larger pieces are chopped or shredded. The ideal compost pile contains browns and greens (of varying sizes) placed in alternate layers of different-size particles.
- 2 Mix grass clippings and green waste into the pile and bury fruit and vegetable waste under 10 inches of compost material.
- 3 As materials breakdown, the pile will get warm and on cold days you may even see some steam.
- 4 Every time you add to the pile, turnover and fluff it with a pitchfork to provide aeration, unless your bin has a turner.
- 5 When material at the bottom is dark and rich in color, with no remnants of your food or yard waste, your compost is ready to use. There may be a few chunks of woody material left; these can be screened out and put back into a new pile. The resulting compost can be applied to lawns and gardens to help condition the soil and replenish nutrients. Compost should not be used as potting soil for houseplants because it may still contain vegetable and grass seeds.



## Troubleshooting Your Pile

Problem:	Cause	Solution:
<b>Rotten egg smell</b>	<i>Insufficient air or too much moisture</i>	Turn pile and incorporate coarse browns (sawdust, leaves)
<b>Ammonia smell</b>	<i>Too much nitrogen</i>	Incorporate coarse browns (sawdust, leaves)
<b>Pile does not heat up or decomposes slowly</b>	<i>Pile too small</i>	Add more organic matter
	<i>Insufficient moisture</i>	Turn pile and add water
	<i>Lack of nitrogen</i>	Incorporate food waste, grass clippings, or manure (chicken, rabbit, cow, horse)
	<i>Not enough air</i>	Turn pile
	<i>Cold weather</i>	Increase pile size or insulate with straw or a tarp

## How do I get started?

### What to add

#### Greens:

- Uncooked or cooked fruits and vegetables
- Bread and grains
- Coffee grounds and filters
- Grass clippings
- Paper tea bags with the staple removed, if there is one.
- Hair and fur
- Chicken, rabbit, cow, horse manure

#### Browns:

- Cotton or wool rags
- Dryer and vacuum cleaner lint
- Eggshells
- Nut shells
- Fireplace ashes (from wood burning)
- Sawdust
- Hay and straw
- Yard trimmings (e.g., leaves, branches, twigs)
- Houseplants
- Used potting soil
- Wood chips
- Leaves
- Shredded newspaper
- Cardboard rolls
- Clean paper

### What not to add

- Aluminum, tin or other metal
- Glass
- Dairy products (e.g., butter, milk, sour cream, yogurt) & eggs
- Fats, grease, lard, or oils
- Greasy or oily foods
- Meat or seafood scraps
- Pet wastes (e.g., dog or cat feces, soiled cat litter)
- Soiled diapers
- Plastic
- Stickers from fruits or vegetables (to prevent litter)
- Black walnut tree leaves or twigs
- Yard trimmings treated with chemical pesticides
- Roots of perennial weeds
- Coal or charcoal ash
- Firestarter logs
- Treated or painted wood

