4 try composting

Protect the Chesapeake Bay

Like farmers, homeowners play an important role in protecting our soil and water resources, especially the Chesapeake Bay. This series of fact sheets highlights various conservation measures—best management practices—that farmers use to produce healthy crops and protect water quality in the Chesapeake Bay and its tributaries. Homeowners can apply these same conservation measures to home, lawn, and garden projects. Working together, we can make a difference for the Bay. For more information on ways to improve your lawn or garden and protect the Bay, contact the organizations listed on the back panel.

Maryland Department of Agriculture
Office of Resource Conservation
50 Harry S. Truman Parkway
Annapolis, MD 21401
410-841-5863 | mda.maryland.gov

UNIVERSITY OF MARYLAND EXTENSION

HOME & GARDEN INFORMATION CENTER
12005 Homewood Road
Ellicott City, MD 21042
extension.umd.edu/hgic

GROW IT · EAT IT
A MASTER GARDENER PROGRAM
go.umd.edu/giei

MDA 15.11.23 | Recycled paper

Turn Your Yard Waste Into a Valuable Fertilizer and Soil Amendment

There are lots of ways to recycle. Farmers recycle the leaves and stalks of harvested crops to create a natural mulch that protects their fields from erosion and nutrient runoff during the winter months. When managed properly, livestock manure can be recycled as a valuable soil conditioner and crop fertilizer. Homeowners, too, can cut down on the amount of yard waste that gets hauled to our landfills by recycling leaves, grass clippings, and non-meat kitchen scraps for use in the garden. Composting is easy, improves soil composition, and makes a great fertilizer.

Benefits of Composting

Composting is a safe, natural method of converting yard waste and non-meat kitchen scraps into a valuable organic product that can be used as a mulch or tilled into gardens and flowerbeds to improve soil health. Adding compost to your soil has many benefits.

- Compost improves the overall physical, chemical, and biological properties of soil.
- Compost helps plants cope with drought conditions. It helps water penetrate hard, clay soils while increasing the water-holding capacity of sandy soils.
- Compost allows oxygen to reach plant roots.
- Compost provides nutrients for plant growth while helping to promote healthy plants that are less susceptible to diseases and insect pests.
- Compost stimulates root development in plants. Plant roots help hold the soil in place and are one of the most effective ways to control soil erosion.
- Compost provides a food source for earthworms and other desirable macro and microorganisms (big and little critters) that benefit your soil.
- Compost helps seedlings emerge by reducing soil compaction and crusting.

How Composting Works

All organic matter will eventually decompose. Composting speeds up the natural decomposition process by providing an ideal environment for naturally occurring bacteria and fungi to break down plant tissue and convert it into a useful garden product. In order to thrive, these microorganisms require the proper mixture of oxygen, moisture, and nutrients.

- Oxygen is supplied by turning the pile periodically with a pitchfork. This is one of the most important, but often ignored, steps in making quick compost.
- Moisture is provided by rainfall, although you may need to add water during dry spells. Be sure to cover the heap during prolonged rainy periods. The compost should feel damp, not saturated.
- A good mix of plant materials containing carbon and nitrogen is needed for proper decomposition.

Backyard Actions for a Cleaner Chesapeake Bay...

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Hot and Cold Compost Piles

There are two types of compost piles. A "hot pile" takes more work but decomposes faster than a "cold pile." Due to its size and composition, the center of a hot pile reaches temperatures between 140 and 180 degrees F, creating optimal conditions for decomposition. By contrast, a cold pile is a heap of yard waste that relies on the forces of nature to eventually decompose.

Getting Started—How To Build a Compost Pile

Select a Location

Choose a hidden corner of the yard out of sight from the street or neighbors. Do not build your pile against a structure such as a house or fence.

Construct a Compost Bin (Optional)

A compost bin will help keep your pile neat while retaining heat and moisture. An attractive bin may also help prevent complaints from neighbors in urban areas. Bins may be constructed out of a variety of materials including chicken wire, wooden pallets, or snow fencing. Composters need a substantial mass in order to generate the heat needed to speed up the composting process. The minimum recommended size is 1 cubic yard (3'x3'x3'). Keep one side of the bin open or construct a hinged door for easy access to the pile. If space allows, you may want to consider a unit with multiple compartments to separate raw materials, actively composting piles, and finished compost. There are many attractive bins available commercially or through your county recycling office. Check out local garden centers, hardware stores, gardening magazines, catalogs, and the Internet.

Make an Easy Wire Composter

Use chicken wire to construct a cylinder that is 3 to 4 feet high and about 4 feet in diameter. The wire ends should be fastened with removable hooks or wire loops to provide easy access to the pile. Reinforce the bin on the outside by driving four sturdy stakes into the ground.

Build the Pile

Select the material to be composted. The materials that you add should contain both carbon and nitrogen. The ideal carbon to nitrogen ratio is 30 to 1. Mix "brown" materials high in carbon (dry leaves, sawdust, hay, and straw) with "green" materials that are high in nitrogen such as grass clippings (although homeowners are encouraged to grasscycle), spent plant materials, weeds without seeds, and vegetable scraps. Make certain that the materials you add are no larger than one to two inches. If the materials are dry, add a little water. If available, toss a few shovels of finished compost between layers to speed up the decomposition process. Create a shallow depression at the top of the pile to capture rain.

What to Compost… and What Not to Compost

- Many materials can be added to a compost pile, including leaves, grass clippings, straw, hay, shredded newspaper, old plants, wilted flowers, potting soil, coffee grounds, tea leaves, and kitchen vegetable scraps such as potato peels, lettuce cores, and carrot skins. Avoid tree branches and wood chips—they slow things down.
- Do not compost weeds with seeds, diseased plants, dog and cat litter, bones, fatty foods, grease and oil, dairy products, fish, or meat scraps.

Caring for the Pile

If you want your compost to decompose more quickly, turn the pile at least once a week to stir things up. The compost should be damp, but not wet. The temperature inside the compost pile will be noticeably hotter than the surrounding air. As long as your pile heats up properly, most diseases and insects will be destroyed.

How Will I Know When It's Done?

Compost can take anywhere from six weeks to two years to produce, depending on the yard waste used and your diligence in turning the pile. The process will slow down in cool weather and speed up during the spring and summer months. Compost is ready for garden use when:

- individual materials can no longer be identified;
- the pile is no longer hot or cooking and its mass has been reduced by one half;
- the pile looks and feels like fertile garden soil; and
- there is no ammonia smell.

Photo courtesy of USDA NRCS.

The finished produce will crumble through your fingers and have a sweet, earthy smell. Let the compost cure or age for one to two months after removing it from your bin.

Troubleshooting

PROBLEM: The compost pile has a bad odor.

SOLUTION: Break the pile apart. Mix in materials high in carbon, such as leaves or straw. Turn the pile more frequently.

PROBLEM: The compost is soggy.

SOLUTION: Mix in dry materials high in carbon and turn the pile to allow air to circulate. Cover the pile if rain is forecast.

PROBLEM: The compost is not getting hot enough.

SOLUTION: The pile may be too small. An ideal size is 3'x3'x3' (1 cubic yard). Add water and nitrogen-rich materials like grass. Turn the pile more frequently, at least once a week.

PROBLEM: The pile is taking too long to compost.

SOLUTION: Turn the pile more frequently. Remove or chip woody items such as sticks, vines, or wood chips.

PROBLEM: The compost pile is attracting animals and insect pests.

SOLUTION: Bury kitchen waste inside the pile to discourage pests. Turn the pile more frequently. If you have a bin, use a cover.