

Composting: A smart gardening practice to recycle garden and yard waste

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Composting lets smart gardeners use chemistry to produce their own garden soil amendment. Some consider it black gold! Compost is decomposed organic material such as leaves or vegetable scraps that, once broken down, turns into humus and resists further breakdown. Decomposition takes place through the work of microscopic organisms including fungi and bacteria, and larger organisms like earthworms, sow bugs, millipedes and many more.

Composting is a smart gardening practice because it recycles and reuses valuable nutrients through organic matter returned to the garden. Using compost in your garden will benefit soil health by improving tilth, increasing water retention and creating air pockets for plant roots to grow. It is a free source of organic matter or natural fertilizer for your garden!

Interested in trying composting? The amount of time and effort you'd like to spend recycling your garden waste will help you choose whether to use a "cold" or "hot" composting method.

Cold composting – easier but slower

If you don't care if you get finished compost within one growing season, cold composting is likely for you. Simply pile up your yard and kitchen vegetative material as it becomes available and let nature take its course. If you mix it occasionally and it has a moist sponge consistency, then you should have some usable composted material the following season.

Hot composting – a smart, faster pile

For hot composting, locate your compost pile near a water source where it is convenient to transport



All photos Rebecca Finneran, MSUE

Compost as a sidedressing on cabbage.

the finished compost for use in the garden. Make sure the ground is level so water will drain evenly from the pile. The size of your pile should be no more than 4 feet by 4 feet. Anything larger will make it difficult to get in and mix it. Make sure you can easily access one side so you can mix the pile from ground level. You can buy one of the many different compost bins sold by retailers, or create your own from various materials.

The hot composting technique usually produces compost within six to eight weeks. To be successful, you will need to provide the microorganisms in the pile with the materials they require to complete the process of decomposition: food, water, proper temperature and oxygen. Usable food materials are referred to as "brown or coarse" (carbon source-C) or "green" (nitrogen source-N). Browns include any coarse, dried vegetative material such as twigs, straw or dried grass stalks. Greens include kitchen wastes (except meat and dairy as



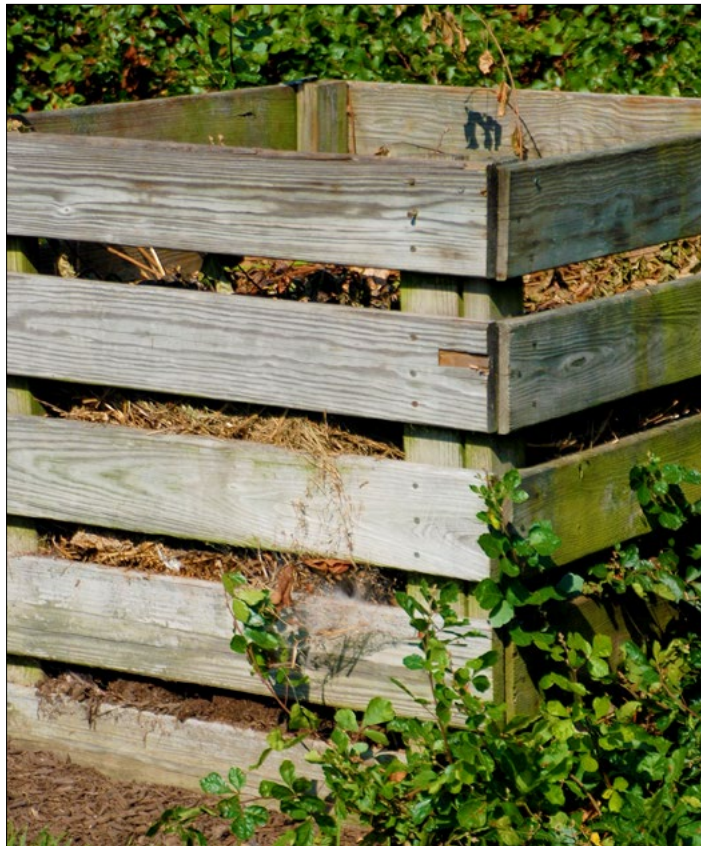
Compost ready for use in the vegetable garden.

these take longer to break down and tend to attract critters), grass clippings, weeds and other green vegetative material. It's always a smart practice to pull weeds before they set seed, reducing the chances of spreading those weeds.

The recommended ratio of mixing browns to greens is 2:1 or 3:1 (C:N). Start your pile by piling up two times the amount of browns (by volume) to greens. Follow the browns with one amount of greens. On top of this layer, sprinkle some existing soil or compost to supply the necessary microbes. Wet this layer so it's moistened, but not oversoaked. Continue to layer, add soil or compost, and water this way until the bin is full.

Make sure you thoroughly mix the pile weekly using a garden fork, moving the outer layer to the inside and vice versa. Frequent mixing allows adequate oxygen to be added to your pile. This insures aerobic or oxygen-loving bacteria are doing the decomposing and, therefore, your pile should not stink, but have an earthy smell.

Check the moisture level of the pile and add water if necessary. Too much water in your pile can also reduce the level of oxygen and invite oxygen-deficient bacteria and a foul odor. When your pile is actively decomposing, a handful of the compost should have the consistency of a wet sponge with only a few drops able to be squeezed out.



Homemade compost bin made of boards with one side accessible.

Smart composting options

If you would like to have a continuous supply of compost, consider a three bin system. Once one bin is full and decomposing, you can work on filling another. When you reach the third bin, you can use the finished compost from the first bin. Visit MSU's www.migarden.msu.edu to view [composting videos](#).

Use your finished compost as a 3-inch layer of mulch around herbs and annuals, or a 6-inch layer around perennials, trees and shrubs. Not only will it provide nutrients, but it will help decrease topsoil erosion, reduce evaporation from the soil surface and create a more even soil temperature. You

can also mulch around or sidedress your vegetables with the compost.

Although composting takes some extra effort and planning, the finished product is a free source of organic matter and nutrients that, when returned to your garden annually, will reward you with improved soil health and lush garden plants. The nutrients in the compost will be released slowly throughout the growing season, providing valuable food and shelter for the various microorganisms and insects that continue breaking it down.

For more information on a wide variety of smart gardening articles, or to find out about smart gardening classes and events, visit www.migarden.msu.edu.



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