

COMPOSTING METHODS

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So you have an apple core you want to get rid of. Instead of throwing it in the trash, you decide to compost. How do you know which method is best? Think about the type of waste, your amount of space and how much effort you want to put in to composting. These factors will affect which composting method is right for you.

Composting methods can be divided based on the compost's feedstock: yard waste, food waste, or a combination of the two. Keep reading for information on the needs and benefits of each method and see our flow chart to help you decide.

Composting with Yard and Food Waste

Traditional Composting

Hot (Active) Compost is composting at high temperature to create the best environment for microbes to decompose organic material. Frequent upkeep is needed to maintain the best ratio of compostable materials and the right balance of air and water. But if managed correctly, the pile's high temperature will destroy most weeds, plant diseases and insect larvae or eggs. Under ideal conditions, finished compost can be produced in 4 weeks but in general will take 4 to 6 months.

Cold (Passive) Compost is the less precise version of hot composting. The effort for upkeep is low as organic materials are added at will and aeration and moisture levels are not as important. While moderately warm due to biological activity, the compost can be susceptible to pathogens, excessive wetness, and odors. This method is ideal for those with little organic waste and not much time to spend on upkeep. The process is slow, taking up to a year to produce finished compost.

Using Organisms

Vermicompost uses worms to recycle organic material into nutrient rich castings. Worms aerate the soil, and worm castings improve soil structure while fertilizing it. Vermicomposting can be done indoors or outdoors in small spaces. Worms thrive in dark, damp but oxygen-rich environments. Care and maintenance are needed to keep the worms moist and fed, while draining excess moisture. The excess water can also be used as compost tea. If you vermicompost outdoors, be careful of animals that may try to eat the worms. This process can take up to 6 months to produce finished compost.

Black Soldier Flies are industrious insects that efficiently decompose organic material, especially green (high nitrogen) matter. Contrary to their wasp-like appearance, adult black soldier flies do not bite or sting. They are not attracted to humans or food, only decaying waste. Black soldier fly larvae thrive in warm, moist conditions, feeding on anything from food scraps to animal manure and carcasses. The larvae process waste materials, producing clean, odorless compost that's inhospitable for pest flies. If the larvae infiltrate worm farms, they will outcompete the worms for food and take over. Black soldier fly larvae can produce finished compost in as little as a week.

On-site Applications

Direct Composting involves burying organic waste to make compost where it is needed. Direct composting requires no maintenance other than digging in waste material; however, large-scale composting efforts can be difficult because holes and trenches are not reusable. Finished compost can be produced in as little as 12 months if not sooner in ideal conditions.

Sheet Compost or sheet mulch, is made up of alternating layers of cardboard/newspaper, mulch, and organic waste. Sheet composting builds fertile soils on top of existing lawns and beds. This method is used to improve soil structure, create perennial borders, convert lawns to vegetable beds, and minimize weeds. Sheet composting is a slow, cold composting process that requires advance planning to gather enough organic material and can take 6 months to a year to make. Yet while demanding in time and material, it can be started in the fall so that decomposition occurs over the winter and new beds can often be ready for spring planting.

Composting with Yard Waste

Leaf Mold produces partially decomposed leaves that have a pleasant earthy aroma, crumbly texture, and are dark brown to black in color. Unlike traditional composts, leaf mold is not nutrient-rich or used to fertilize. Leaf mold is used as a soil amendment primarily to regulate the soil climate (e.g., moisture retention, minimize runoff and temperature moderation) and improve soil tilth. Other benefits of leaf mold include moderating soil pH, promoting a crumbly soil texture, building a habitat for soil organisms like earthworms and beneficial bacteria, and weed control. Finished compost takes 6 months to a year to form.

Composting with Food Waste

Bokashi Compost is fermented organic material made from pre-processing food waste (e.g., meat, dairy, bread, cooked food) that is typically sent to landfills and generally not composted through traditional methods. The highly nutritious byproducts (liquid and fermented material) are made in a few weeks but can be too acidic for plants. It is suggested that the liquid be diluted with irrigation water for application and the solids be either buried for direct composting or added to a compost bin to complete breakdown. This second option should be avoided with meat and dairy byproducts to avoid attracting unwanted animals. Bokashi is made in a sealed container, making odors and pest attraction negligible. This makes bokashi indoor-friendly.

Final Thoughts . . .

When choosing the best method for you, consider the amount and type of waste you have, the space you can use and effort you want to put into the process. Some choices will require more or less materials and effort. There are many mediums that can be used to implement these methods including compost piles, single to multiple bins, cone composters, tumbler systems and burial or sheet composting.

For further information or if you have any questions contact your local Cornell Cooperative Extension office or visit the SOIL3 website at <https://blogs.cornell.edu/soil3/>.

