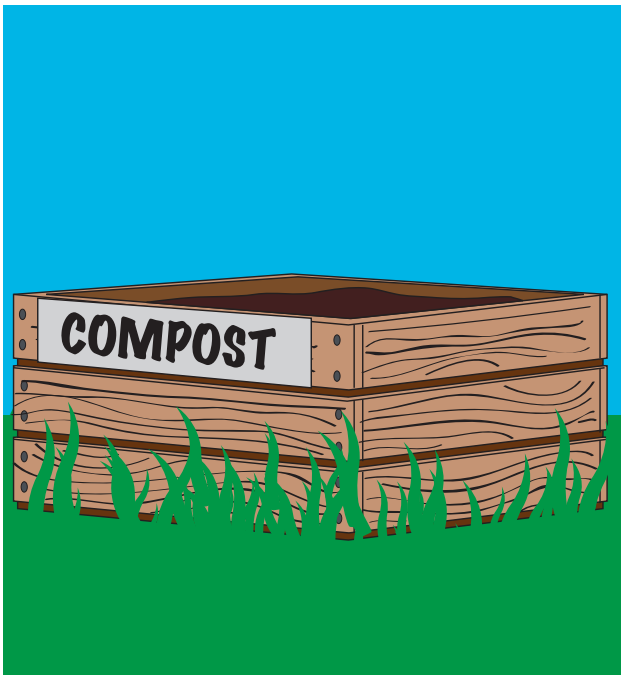
Composting



Nearly half (23) of all U.S. states now ban yard waste from landfills because it represents such a large volume and because it can be productively composted. There are about 3,400 community and commercial composting operations nationwide according to the U.S. Composting Council.

When organic waste is disposed of in the trash, it ends up in a landfill with non-organic trash. As the landfill is filled and covered, no air passes through, causing anaerobic conditions. In these conditions, decomposition of organic waste produces methane within the landfill that needs to be released to relieve pressure buildup. The best way to decrease methane is to compost. The aerobic nature of composting produces very little methane.

What is Composting?

Composting is the aerobic, biological decomposition of organic materials. Living microbes combine with oxygen to cause this breakdown. The end result is a nutrient-rich, soil-additive called “compost”. Composting is true closed-loop recycling process as it returns organic materials back to the earth.

What Can Be Composted?

Nearly all organic byproducts, including food scraps, leaves, grass, yard clippings, nonrecyclable paper (paper towels, napkins, etc.), sawdust, and other wood products can be composted. Most of what is composted is yard trimmings and food residuals.

Methods of Composting

Composting can be as simple as a backyard pile or large outdoor sites with windrows, where organic matter is piled in long rows and usually turned or aerated throughout the composting process. There are also more high-tech and controlled processes, such as in-vessel composting. Composting varies as well in the types of organic materials that are processed. Here are several approaches:

- **Grasscycling** is a form of source reduction that involves the natural recycling of grass clippings by leaving them on the lawn after mowing. Community “leave it on the lawn” campaigns help keep grass and other organics out of the landfill.
- **Backyard Composting** allows residents to compost yard trimmings and certain other organic materials in small composting bins or a simple pile in their backyards. Finished compost can then be used for lawns and landscaping or in the home garden.
- **Vermicomposting** uses red wiggler earthworms to process food scraps and other organics into worm casting. The worms eat over half their body weight each day. Composting using worms is most often done on a small-scale indoors, but there are some larger vermicomposting facilities.
- **Yard Trimmings Composting** is the large-scale processing of green organics, diverting one of the largest portions of the municipal solid waste stream from landfills and into a marketable product. Yard trimmings can include grass and leaves, tree limbs, trunks and brush, and garden materials. These can be brought to drop-off sites or picked up at the curb and sent to municipal composting facilities.
- **Source-Separated Organics Composting Programs** rely on residents, businesses, and public and private institutions to separate one or more types of organic materials, usually green wastes, food, and soiled paper, and set them out for collection separated from other recyclables

and trash.

- **Mixed Municipal Solid Waste Composting** is the collection of organics commingled with other materials. In this approach, mixed MSW is first sorted to remove recyclable, hazardous, and noncompostable materials, and the remaining organic materials are then composted. The downside to this approach is the potential for contamination.

What is compost?

Compost is what results from the aerobic decomposition of organic matter, or composting. Also known as humus, compost is considered a soil conditioner rather than a fertilizer. It provides valuable organic matter to the soil, improves soil structure, aids in microbial activity, attracts beneficial insects like earthworms, can suppress soil-borne diseases, and releases nutrients slowly, allowing for availability throughout the growing season.

Benefits of Compost

Using compost has important environmental benefits:

- Enriches the soil, reducing the need for water, fertilizers, and pesticides.
- Helps clean up or remediate contaminated soils.
- Prevents pollution. Diverting organics from the waste stream ultimately avoids the production of methane and leachate in the landfills. Compost can also help stop pollutants in storm water runoff from reaching surface water resources.
- Prevents soil erosion and silting on embankments parallel to creeks, lakes, and rivers, and prevents erosion and turf loss on roadsides, hillsides, playing fields, and golf courses.

Using Compost

Finished compost is widely used in agriculture and horticulture (gardening), landscaping, golf course construction and highway beautification, and as a landfill cap (the layer of soil that is placed over old landfills after they have reached capacity). Public agencies also use compost in the remediation of contaminated soils, to prevent soil erosion, and in storm water management. Communities employ compost at parks, recreational areas, and other public properties. And homeowners make good use of compost in outdoor gardens, planter boxes, around trees and shrubs, and also for indoor house plants.

Additional resource information

- U.S. Composting Council
  www.compostingcouncil.org
- U.S. EPA
  www.epa.gov/epawaste/conserve/rrr/composting/index.htm
- Composting 101
  www.composting101.com
- National Geographic — Check Video
  www.nationalgeographic.com