

A Cycle of Reclamation and Reuse

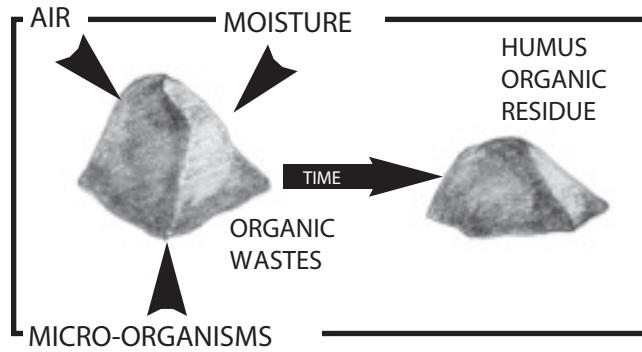
Composting is the process of using nature as a recycling system for organic material. It is not a new idea. Natural composting occurs when leaves accumulate on the forest floor and begin to decay. The rotted leaves are returned to the soil where the roots of forest plants reclaim the nutrients from the decomposed leaves. To compost domestic and garden waste is a very simple process that requires minimal maintenance.

Benefits of Composting- Composting has many benefits. It cuts domestic and garden waste, which accounts for 30% of the waste stream into the landfills, extending the life of landfill sites. By composting organic wastes and using the finished product as a soil amendment we are creating a cycle of reclamation and reuse for this natural resource. As a soil amendment compost improves soil structure, its ability to hold moisture and circulate air, and it provides nutrients for plants. Compost can also be used for top dressing, side dressing, in planting boxes and as mulch.

The components of composting are air, moisture, and organic material; nature provides the extensive collection of micro-organisms.

Micro-organisms- Thousands of micro-organisms that live naturally in the soil feed on the organic waste, decomposing it to create dark, crumbly humus (organic residue), generating heat in the process. Bacteria are the most numerous and effective of the microbes, they are the first to begin to break down wastes. Fungi and protozoa help in the process as well. As the compost cools down, additional organisms: earthworms, spring-tails and other small insects, aid in final decomposition and signal that the compost is ready for use.

Air- Composting microbes are aerobic; they need the oxygen in air to do their work well. If the pile becomes anaerobic (airless), new microbes take over and a "rotten egg smell" is created as they decompose your pile at a much reduced



rate. Turning your pile frequently to reduce matting, or including ingredients that do not mat down easily will help keep your pile aerated.

Moisture- The ideal amount of moisture in your pile is that of a wrung out sponge. A thin layer of moisture coating every particle in your pile makes it easy for microbes to live and move within the pile. If it is too dry, the composting process will take much longer. If the pile is too wet, an anaerobic environment is created. If your pile is dry, you can add moisture by watering the pile or adding wastes which contain moisture, such as grass clippings or fruit and vegetable scraps. If the pile is too wet the addition of hay may help, as well as turning frequently and protecting the pile from rain.

Materials- Generally two types of material are necessary when composting: browns and greens. Each plays an important role and work together in decomposition.

Browns- Dry and dead plant matter make up the brown component. These items are made up of long sugar molecules, which are sources of energy for the microbes in the compost. Browns also help keep the pile aerobic by providing dry, mat resistant material.

- Autumn leaves
- Wood chips
- Sawdust
- Corn cobs
- Straw

Greens- Fresh and most often materials added from the garden and kitchen make up the

green component. They typically contain more nitrogen, which is important as a source of amino acids and protein for the multiplying microbes in your compost.

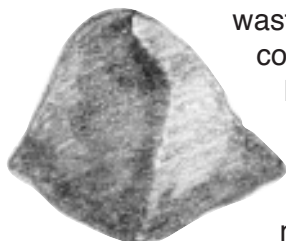
- Grass clippings
- Fruit and vegetable scraps
- Coffee grounds
- Tea bags
- Flowers
- Manure

Do not compost: chemically-treated wood products, diseased plants, weeds, human or pet waste, meat bones, and fatty food wastes.

Compost Systems- There are many methods of composting. They are as simple or as involved as you want. You can build them yourself or buy a pre-made compost system. Each system has its own advantages and disadvantages. Do some research on different options to decide which one is best for you. Below are brief descriptions of the most common systems available.

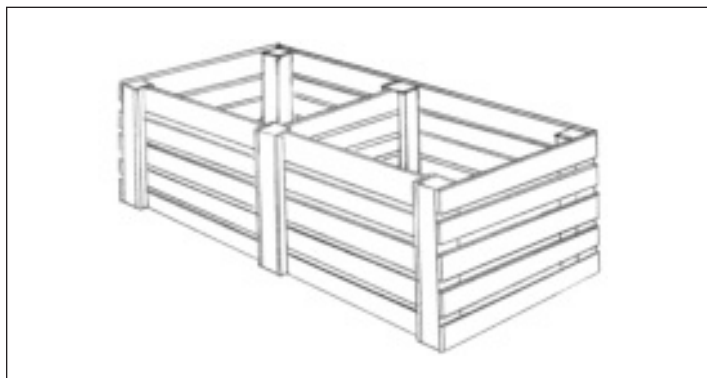
Pile- This method is as simple as throwing your organic material on a convenient spot of ground, and turning occasionally. If not turned, the process is called Cold Composting. Cold composting is much slower but an option if you have room and don't want the task of turning a pile. This process can take from 6 to 12 months to create finished compost. The

waste on the bottom of the pile is composted first. Remove from the bottom of the pile for use. The pile method is easiest but has the disadvantages of not looking tidy, attracting pests, and not staying in a confined area.



Bin- One bin is the simplest of the systems. It is also easy to add onto as need arises. The enclosure should be at least one meter across. If using wood make sure to use lumber that has NOT been treated.

Other methods include using chicken wire and steel posts, or even cinder blocks. Two and three bin systems consist of adjacent bins. As one bin becomes full, it can be "turned" while transferring material to the next bin. Each bin has compost in different stages of decomposition.



Rotating or Tumbling Systems- The cost of these systems can be higher and they hold a limited amount of waste. However it is a very rapid system, generating finished compost in 3 weeks or less. The bin is rotated daily allowing the material to mix well, maintaining good aeration. While one batch is in the tumbler composting, the next batch can be accumulating.

Sheet or trench composting- This is a good system for those with plenty of room and with plans for a garden. In the fall bury wastes in an 8" deep trench dug in your garden. Let the material rot for a few months and then plant your garden right on top of it. If you have masses of material to compost, roto-till the waste into your garden in fall and it should be composted by spring planting.

Composting with worms- Using worms, called vermicomposting, is another option for composting. It is accomplished in a covered bin. This method requires particular worms adapted to living in compost, not soil.

References

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