



Composting is the life of organic farming. It is the oldest and most natural form of recycling organic material. Through this, high percentage of nutrients is captured and returned to the soil.

Compost is the alternative fertilizer offered by organic farming. It is a mixture of decomposed organic materials containing nutrients such as nitrogen, phosphorus and potassium and lots of other minerals (copper, molybdenum, boron, iron, manganese, etc.) released into readily available forms for plant use.

### Importance of Compost

- Adding compost improves soil structure, aeration and water retention.
- It also adds important micronutrients and increases the bacterial activity in the soil.
- Enriches soil, helping retain moisture and suppress plant diseases and pests.
- Reduces the need for chemical fertilizers.
- Encourages the production of beneficial bacteria and fungi that break down organic matter to create humus, a rich nutrient-filled material.
- Reduces methane emissions from landfills and lowers your carbon footprint.

## The Compost Site

The compost site should be near the source of raw materials and near the vegetable fields where the compost is intended to be applied.

It should have a shed and cemented floor if possible, to prevent run-off of valuable minerals. Exposure to sunlight will cause nitrogen evaporation and exposure to rain will wash away the nutrients.

## The Compost Materials

Do not be selective in gathering materials needed for composting. The compost should not be limited to certain plants or weeds such as sunflower, and leguminous materials. A mixture of plants will ensure complete nutrients and minerals for the crops.

Shred or chop materials for easier and faster decomposition. Shredding helps speed up decomposition by increasing the surface area available for microbial action and for better aeration.

## The Compost Pile

The compost pile should have a correct mixture of carbon to nitrogen materials to ensure proper decomposition. A good ratio of carbon to nitrogen is at 30:1 (30-parts carbon materials to 1-part nitrogen materials). A compost pile rich in carbon materials results in slow decomposition while a compost rich in nitrogen materials results in a smelly compost pile.

For better results, here are some tips to consider:

- **Ensure proper aeration** – beneficial microbes need oxygen to thrive and properly decompose materials, more microbes mean faster decomposition.
- **Ensure enough moisture** – microbes need moisture to breakdown the materials of the compost. A compost pile that is too dry will not heat up because microbes are not active and too much moisture will clog-up air holes depriving microbes of oxygen.
- **Proper Warmth/ heat** – this will dictate the speed of decomposition of the compost pile. Heat temperature of the compost pile should be at 50°C to 70°C kill weed seeds and bad bacteria.
- **Right Volume** - A compost pile should at least have a minimum width of 1 meter and minimum height of 1 meter. A smaller pile will not produce heat, while a too big pile will result to uneven decomposition.



## Making the Compost

**Step 1.** Gather a mixture of grasses, weeds and other available in the farm such as napier grass, wild sunflower (stalks and leaves), garden cleanings including vegetable trimmings left after harvest.

**Step 2.** Shred the gathered materials for easier and faster decomposition.

**Step 3.** Pile the shredded materials and it should at least have a minimum width and height of 1 meter.

**Step 4.** Spray the compost pile with activators, such as Trichoderma to hasten the decomposition process.

**Step 5.** If the compost pile is outside, cover with plastic sheets, used sacks, banana or coconut leaves. This will help increase the temperature and protect it from rain that could leach the nutrients. However, if there is a compost shed, there is no need to cover the pile.

**Step 6.** Turn the compost heap daily to maintain rapid and uniform decomposition. In between turnings, check the moisture if it is too dry or too wet. To check, squeeze the material, if it cannot be compacted, it lacks moisture. It should easily form into a ball when squeezed, and if water drips, there is too much moisture.

**Step 7.** Monitor the temperature. An ordinary thermometer can be used or you can improvise a metal rod to monitor the temperature of the compost. Insert the metal rod in the compost pile. After 2 hours, pull it up. Try to hold the metal rod. If the part that is inserted is too hot to hold, the desired temperature has been reached. But, if you can easily hold it, your compost lacks the required temperature.

**Step 9.** Compost is harvestable after 2 to 4 weeks, depending on microbial activity and environmental conditions.

**Step 10.** For application, broadcast compost as basal fertilizer before final harrowing during land preparation.

### Reasons Why the Compost Pile Doesn't Heat Up

- The 30:1 carbon–nitrogen ratio is not properly followed.
- Lack of moisture or too much moisture.
- The size of compost pile is too small. The required size for the compost pile should be one meter both for its height and width.
- Lack of microbes, the compost pile lacks inoculant to enhance the population of the microbes.

Source:

- Laruan, Jefferson C. Soil Fertility Management PowerPoint Presentation

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# A Guide to Simple COMPOSTING

