

# How to Set-up and Manage a Stationary Backyard Compost Bin

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## Introduction to Composting

### What is Composting?

Composting is an aerobic (oxygen-using) process that speeds up natural decay to transform organic wastes such as vegetable peels and newspaper into a valuable soil amendment called *humus*. By controlling air-flow, temperature, moisture, and food inputs, the user accelerates the decay process to convert organic waste into a beneficial soil conditioner. As a result, composting is a natural recycling process that eliminates organic material from the waste stream, a component that accounts for up to 30% of landfilled material.

### Why is Composting Beneficial?

Composting diverts recyclable waste from landfills, which not only preserves valuable landfill space for non-recyclable materials, but also reduces waste disposal costs for individuals and communities. Additionally, composting generates a finished nutrient-rich mulch/topsoil product within 3 to 4 months that improves soil structure, and, in turn, enhances garden productivity. You can use composting products in your garden as a natural, low-cost alternative to expensive, store-bought topsoil and synthetic fertilizers.

## Getting Started

### I. What Items/Tools Do I Need to Start Composting?

- A plastic stationary compost bin (Figure 1.)
- A shovel/rake
- **BROWN** organic wastes
- **GREEN** organic wastes
- Gardening gloves (optional)
- Paper shredder or scissors (optional)



Figure 1. Stationary Compost Bin

## II. How Do I Set Up My Compost Bin?

1. Set-up your compost bin in your yard on a *level, well-drained* soil surface that receives *maximum sunlight* exposure



\**Avoid steep-sloped surfaces.* Steep angles may cause the bin to tip over.



\**Avoid saturated areas.* The composting organisms are aerobic (require oxygen); if the bin is placed in an inadequately drained (water saturated) area, the water will create anaerobic (no oxygen) conditions responsible for foul odors.



\**Avoid shaded areas.* Sunlight exposure speeds up the composting process by warming the bin; although composting organisms can work in cool conditions, their activity (decomposition) is enhanced with warm conditions.

2. Once you have chosen the location for your compost bin, place the bin firmly onto the ground. Ensure contact with the ground under the entire circumference of the compost bin.
3. Fill in any holes with soil to prevent small animals from entering the compost bin.

## III. What Materials Should I Add to My Compost Bin?

The organisms that decompose organic material require a combination of nitrogen-rich materials (**GREENS**) and carbon-rich materials (**BROWNS**) for maximum efficiency.

**GREENS** include:

- Vegetable peels
- Egg shells
- Seeds and pits
- Coffee grounds/tea bags
- Banana peels
- Fresh grass clippings



**BROWNS** include:

- Napkins
- Newspaper
- Sawdust
- Office paper
- Envelopes
- Dry leaves



Items to **AVOID**:

- Meat products (bones, skin, etc.): *will cause foul odors and attract wildlife*
- Weeds: *incompletely composted seeds will germinate when added to garden*
- Large wood chips/sticks: *will take a very long time to break down*
- Shiny/wax coated paper (junk mail, orange juice containers): *will inhibit decomposition*
- Human waste: *bacteria in fecal matter will not be killed in the composting process*
- Anything that has never lived (plastic, Styrofoam, chemicals, glass, etc.): *will not break down*

## IV. How Do I Properly Collect/Prepare Greens and Browns for My Compost Bin?

### GREENS

1. *Cut up/shred greens into pieces no bigger than 3 inches in diameter (Figure 2).* Shredding compost additions increases microbial access to nutrients, speeding up the composting process.
2. *For convenience, collect greens in a small (~gallon-sized) container in your kitchen (such as an “aroma-seal” coffee can or a compost pail purchased on-line).* Add materials to the compost bin once your kitchen bin is full.

### BROWNS

1. *Cut up/shred browns to pieces no bigger than 3 inches in width (Figure 2).* Shredding compost additions increases microbial access to nutrients, speeding up the composting process.
2. *Dampen (but do not saturate) dry additions before adding them to the compost bin.* Microbial decomposers require a moist environment to decompose organic matter.



Figure 2. For rapid decomposition, shred additions into pieces no larger than 3 inches

## The Composting Process

### V. How Should I Add Materials and Maintain My Compost Bin?

1. *Unscrew the lid of the compost bin.*
2. *Dump your materials over the surface of the bin.*
3. *Screw the lid tightly to prevent animals from accessing the compost. Line up the air vent holes on the lid to maintain an aerobic environment.*
4. *Add approximately equal amount of BROWNS and GREENS to your compost bin over the long-term.* Equal amounts of BROWNS and GREENS satisfy the nutrient requirements for the composting microbes.
5. *Add materials in increments.* Materials can be added at your convenience: daily, every few days, or even biweekly.
6. *For rapid decomposition, stir the compost with a rake or shovel every 3-4 days. Bring outer (drier) materials to the center of the pile and bring center (moist) material to the surface.* Stirring distributes moisture and enhances compost aeration throughout the compost pile to stimulate microbial activity (i.e. increase decomposition rate).

## VI. Troubleshooting/Frequently Asked Questions

### Why is My Compost Bin Steaming?

After 2-3 feet of compost materials has accumulated in your bin, the center of the pile will give off heat and may begin to steam. As microbes metabolize (breakdown) the organic material, heat is released into the environment; more heat indicates increased microbial activity.

### Why is My Compost Not Heating Up?

The compost may be too dry or does not yet have enough material for microbial action. If your pile is three feet high and still does not heat up, feel the compost pile with your hand to assess the moisture content. If the material is dry, incrementally add a small amount of water (2-3 cups at a time) and stir it into the pile with a rake/shovel. Continue this process until the entire pile is damp.

### How Long Will it Take to Get Finished Compost?

The composting processing time varies based on the materials added, the temperature, the level of aeration, and frequency of stimulation. In warm, well-aerated (stirred frequently) conditions, the completed compost product may be produced in as little as six weeks. However, under cooler, less stimulated conditions, finished compost may take a year or more for completion.

### How Do I Know When My Compost is Finished?

The finished compost product called humus (otherwise known as “black gold”) will have an “earthy” smell, have the texture of lightweight soil, and, as the name suggests, be dark brown/black. Finished compost will have no identifiable residues remaining (i.e. whole seeds, peels, paper pieces, etc.).

### How Do I Use My Finished Compost Product?

Once the compost material satisfies the above description, remove the material from your bin. Use finished compost as a mulch or soil amendment for your garden; the stable compost product adds nutrients to the soil and improves soil structure by encouraging air and water pores.

### Is It Safe to Eat Food Grown With Compost?

Yes. As long as composting guidelines have been followed, all vegetables, herbs, and fruits grown in with a compost amendment are safe for human consumption.

### Why Does My Compost Bin Smell Like Garbage and How Do I Fix This Problem?

The compost is too wet and has entered anaerobic conditions. Add some dry, shredded material to the compost bin and stir the compost with a rake or shovel to enhance aeration. Discontinue the addition of moisture-rich components until the bin has dried out and no longer has an odor.

### Will My Compost Bin Work in the Winter?

Below 40° F, decomposing microbes will become dormant (stop breaking down materials). However, you can continue to add compost materials throughout the winter because as soon as warmer temperatures return in the spring, the microbes will be activated and feast on these materials.