



# Composting

For a Healthier & More  
Productive Garden

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## Composting

Composting is a way to enrich and build soil. Modern agriculture, deforestation, and overgrazing have all contributed to the loss of topsoil.

*"Half of the topsoil on the planet has been lost in the last 150 years."*  
Worldwildlife.org

This paves the way for soil erosion, loss of soil fertility (which leads to heavy chemical fertilization), pollution of waterways, and loss of fish/waterway life.

By growing their own food and building their own soil without the use of chemicals, gardeners are bringing awareness of this issue to light and playing their part to mitigate the issue.

Composting also converts waste products into some of the best natural fertilizer you can use. Unlike fertilizer you buy at the store, compost is alive. It is filled with microbes that are beneficial to the soil ecosystem and form a symbiotic relationship with the plants that are growing in it. These microorganisms enable plants to reach nutrients they otherwise would not have access to. They also help protect

them from disease, produce chemicals and hormones that stimulate plant growth, and further feed the plant after they die.

With a little time and effort, you can compost and reap the benefits thereof.



## Benefits of Composting

- Increases overall health of soil and its ability to retain water by adding organic matter.
- Naturally fertilizes your garden. No need for chemical fertilizers.
- Creates an environment that encourages the production of beneficial microbes. This bacteria and fungi break down organic matter creating a rich and nutrient material called humus.

# Building Your System

## Pick a Location

For the best composting results, you will need to turn the material on a regular basis and make sure it stays moist. When the compost is finished it is going to have to be hauled to the desired location in your garden. You want it near the garden and in a location, that is easily accessed for dumping household and lawn waste. If at all possible place your composting site in or near the garden. This way the compost will be only steps away from where it is needed.

## Construction

There is no need for your composting system to be fussy or elaborate. Simple walls made from pallets work great and can usually be acquired for free. Placing a t-post or similar stake at each corner will provide enough support for the walls.



It takes, on average, 6 months for compost to be ready. Having at least two bins ensures that once one bin is full you can start another. Once you get into a cycle you will have a continuous supply of compost. Feel free to add as many bins as needed or desired. You can never have too much compost. Quite the contrary, gardeners are always wanting more.

It is beneficial to turn the compost on a regular basis. A three-wall structure accommodates this best. Leaving the

front open allows you to easily maneuver and turn the material.

### WHY TURN THE PILE?

Yes, you can leave your compost pile sit and it will eventually break down. This however takes a long time and results in an uneven material.

Turning aerates the pile for the aerobic microorganisms and mixes the materials. This resulting in a more consistent finished product that is produced more quickly.

**Turn the pile at least once every two weeks.**



Many composting materials are fairly easy to come by. The most commonly known material is food scraps. They are indeed good to add to the compost but need to be added in the proper ratio to achieve desired results.

The microorganism that actually do the composting need to have a balanced diet. If they do not, you will end up with a dead pile (all the microbes died and

# Composting Materials

aren't doing their work) that isn't composting or is a stinky pile of yuck!

Scientists have found that a ratio of 25-30 parts carbon to 1-part nitrogen seems to be the happy place for microorganisms. To obtain this carbon to nitrogen source, use a 2:1 ratio of brown to green materials.

Food scraps would be considered a nitrogen or what is referred to as green material. Wood chips are an example of carbon or brown material.

Never add meat, eggs, dairy, pet feces, fatty food waste, or treated wood.

## Carbon / Brown = Dead and Dry

- Straw
- Wood chips
- Small branches and twigs
- Dried dead plants
- Dry leaves
- Tea bags
- Egg Shells

## Nitrogen/Green = Fresh and Moist

- Vegetable waste
- fruit waste
- Fresh grass clipping
- Fresh plant material
- Coffee grounds
- manure

# The Last Steps

## Your Materials

Use the following layering method as a general guideline for building up your pile. Start at the bottom adding all the layers then repeating until your pile has reached the desired height. Don't fill the bin all the way to the top or you will spill composting material when turning.

When you have filled one bin, start a new one for a consistent flow of finished compost.



#7 Spray with water to moisten the layers.



#6 Add a thin layer of good garden soil or finished compost.



#5 Add a 4" layer of green material: fresh grass clippings, veggie or fruit waste, plant clippings...



#4 Spray with water to moisten the layers.



#3 Add a thin layer of good garden soil or finished compost.



#2 Add 4" of brown material : dried leaves, egg shells, wood chips, or straw...



#1 Start your pile with a 4" layer of brush, small twigs, hay or straw.

Adding garden soil in between layers introduces the microorganisms needed to break down the compost. It is like a jump start for your compost pile.

## Water

You have built your compost bins, added materials following the proper ratio and layering technique every step of the way, now what?

Sun, wind, and turning can dry out your pile. In order for the microorganism to thrive and busy themselves devouring your compost, they need moist conditions.

Check your pile periodically to make sure the proper moisture level is maintained. You are looking for moist, not wet and soggy, not dry.

A simple way to check the moisture is to take a handful of material and squeeze it in your hand.

- If water is released it is too wet.
- If material crumbles apart when released it is too dry.
- If material holds its shape, then it is just right.

If it is dry, spray the pile with some water, checking the pile every few minutes to see if more water is needed.

## Adding Compost to the Garden

You may find that you have some trouble spots in your garden, plants don't seem to do well in an area or perhaps the soil is hard and compacted. This would be the first place to add compost. Once all the problem areas are taken care of, add some to the rest of your garden. Compost is like a living natural fertilizer, it works wonders on all parts of your garden. If you are short on compost, help it go further by adding it only to individual plants.

## HEATING IT UP

Different microbes, mostly bacteria, "come alive" at different temperatures.

Temps 14°-68°

Psychrophiles-Composting is slow if not dormant at these temps. The bacteria are there and active, but the process is sloooooow.

70°-90°

Mesophiles- When temps are ideal mesophiles can double their population in 30 min. Their favorite meal is food scraps.

90°-200°

Thermophiles- They like it really hot. They can even live in geysers. Although they can live and work in these extreme condition, not much else can. It is at this stage that soil borne plant diseases, and weed seeds are killed.

Piling your compost high helps the pile get hot. This is the goal so that you don't introduce weed seed or disease into your garden when spreading your finished compost.

## Reaping the Benefits

Now that your system is set up and you are getting into the rhythm of maintaining it, you will start to see the rewards. Your garden will thrive with the addition of your compost. Your soil will be healthier and provide more nutrients to the plants. The plants will be healthier and easier to care for. Their fruit will be filled with more nutrients, which in turn will be more nourishing for your body.

