

Composting 102 – Building a Basic Compost Pile

The first step to making your own [compost](#) is to learn and understand how to make a proper compost pile. Many internet sources and people over-complicate the art of making compost. I make over 50 gallons (200L) of compost per year using the following simple, basic methodology.

To make a compost pile, layer equal amounts of brown materials like cardboard or newspaper and green materials like grass clippings / kitchen scraps until you have a pile that is approximately 3' diameter and tall (1 m). Mix these layers, and add water. The right moisture level for a compost pile is like a wrung out sponge.

Ingredients needed to make compost



For aerobic bacteria to begin breaking down materials into usable compost, you need four basic ingredients [\[2\]](#):

- Green Material (Nitrogen source)
- Brown Material (Carbon source)
- Air
- Water

You should target using 50% green and 50% brown material by volume when you construct your pile. And with those four ingredients, properly mixed, you will stimulate the aerobic bacteria (the kind that gets hot) to begin making compost!

What are ‘green’ materials?

Green materials for making compost are any fresh or wet organic material that is high in nitrogen.

*RELATED ==> See our comprehensive list of [101 items you can compost here](#)

Basically if it comes from a plant and is not dry, it is a ‘green material’. This includes kitchen scraps such as fruit peelings, cores, vegetable scraps, grass clippings and other ‘fresh’ yard waste is ‘green’.



A special note regarding grass clippings – they are just about the single best ‘green’ material there is for making compost. However, a new pile constructed with lots of grass clippings will need to be turned almost daily for the first week or two. Grass clippings decompose rapidly. The rapid decomposition of grass clippings can squeeze out air, leading to anaerobic bacteria (bad bacteria, slow, cold) to become dominant in the pile. Frequent turning will prevent anaerobic bacteria by reaerating the pile and allow the good ‘hot’ bacteria to thrive.

Related ==> [How hot does compost need to get to kill weed seeds](#)

What are 'brown' materials?

Brown materials for compost are any dry, plant based products that are high in carbon, such as newspaper and cardboard.

Think of it like this, if it comes from a plant and is dry, then it is a 'brown' material. Brown materials slow down the composting process and help maintain moisture and aeration.



Examples of brown compost ingredients are newspaper, brown cardboard, saw dust, pine needles, autumn leaves, wood shavings, and biodegradable [egg cartons made from paperboard](#). **You should also shred brown materials prior to using them.** Shredding brown materials for a compost pile allows for better mixing and increased surface area..

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Note that while glossy or colored newspaper or cardboard can be composted, the inks and dyes will contain heavy metals. Long term accumulation of heavy metals in your body or environment is toxic and should be avoided. This means that if one of your goals is to make your compost as environmentally friendly as possible, you should stick to plain brown and only black & white

newspaper. You can read our detailed article discussing the aspects of heavy metals and compost [here](#).

Do Oak tree leaves effect the pH of soil?

There is an old gardening myth that generally states that Oak Leaves will raise the pH of soil.

Some people still recommend you to not use Oak leaves in compost piles. This is not true! **Oak Leaves do not effect the pH of soil!**

Michigan State University conducted a six year study where they applied leaf mulch to test plots, utilizing different species of oak and maple leaves. After six years of applying an Oak Leaf mulch 4"-6" deep they found no effect on soil pH. Again, leaves from Oak trees do not effect the pH of soil!

The study is free to read online. You can find a link in our references – [\[3\]](#)

What materials should not be composted?

Meats, proteins, and dairy products should not be composted. There are two primary reasons for this. First, meat and dairy products take a very long time to break down. Second, meat and cheese will attract animals and vermin to the pile, creating a mess.

Steps to build a Compost Pile

1 – To build a compost pile, you should **assemble your materials** over time. Particularly, brown materials, as they can be stored long term very easily.

2 – **Create a layer of brown material**, roughly 1-2 inches thick (5 cm)

3 – **Add a layer of green material** on top.

4 – **Repeat until your pile has 2-4 layers** of each, or a pile that is 6-8" tall.

5 – **Add some water to moisten the brown material.**

6 – **Mix the layers up using a pitchfork, shovel, or potato fork.**

7 – Repeat steps 2-6 until you have **created a pile that is approximately 3' diameter, and 3' tall** (1m x 1m).

8 – **Turn your compost.** Keep turning it every few days to a week until it has decomposed. You will know it is ready when it is black, light,

If you would like to see me build a pile in real time with results? Then have a look at our excellent video guide to composting below! It really is a good 'how-to' guide, garnering over 15k views in it's first month on YouTube from a small channel. It shows the complete process.

Where should you locate a compost pile?

A compost pile should be located close enough to your home to provide convenience, yet not against any structures. You should try to compost on the ground. There is a huge reason for this, as you can get some additional benefit from worms in the surrounding ground.

Nearby worms will often approach my piles after they have cooled down. They then finish off any errant organic material and make worm castings. Worm castings is just a polite way of saying worm poop, and has similar properties as compost.

Manage your compost pile.

The analogy I like to use regarding compost is this:

Making a compost pile is like baking a cake. But making compost is like tending a fire. You must manage the pile through the process.

A warm pile is a happy pile

If you used enough 'green' material, your pile should heat up in the center. Heat is one of the byproducts of the composting process, the others being water and CO₂. [2] Furthermore, a hot pile of around 130F-140F will be sufficiently hot to [kill any weed seeds](#).

The temperature should be hot to touch initially, and then as time goes on it can drop a bit and just be warm. Obviously, weather can effect the internal temperature as well. However, in normal outdoor temperatures of 60F-90F (15-30 C) you should expect an internal temperature above 113F, [1] approaching 150F.

The best way to know the temperature of your pile is to use a compost thermometer. I use one with a 20" probe, and it cost [\\$25 from Amazon](#). I opted for the larger diameter probe as sometimes you meet resistance when inserting it into the compost pile, and I didn't want to cause damage.



My compost thermometer

My compost pile isn't heating up. What is wrong?

If your pile is not warm in the center a couple days after building it then something is wrong. There are generally **5 reasons as why compost piles don't heat up**. Identify the reason and correct it, and it should warm back up. The most common reasons are listed below:

1 – **Not enough green material.** Nitrogen is what feeds the good bacteria, which in turn give off heat. Not enough Nitrogen means the pile will not get hot.

2 – **Not the right size.** Your pile needs to be about 3 feet diameter by 3 feet tall (1 m x 1m). This will allow for a large enough population of good bacteria, working in unison to generate lots of heat.

3 – **Not enough moisture.** If the pile is dry, then the bacteria will go dormant, and cease breaking down material.

4 – **Too much moisture.** If the pile is too wet, then there will not be air available for the bacteria. If there is no air available, their numbers will dwindle and the anaerobic, or bad bacteria will take over. Anaerobic bacteria do not generate heat.

5 – **Not enough air.** As the material breaks down, it will compress on itself. As it does this, there is less air available. Less air means less

Aerate the pile frequently to keep the good bacteria going

You will need to turn the pile every several days to help it stay aerated. Also, while you are turning it you should examine the pile to make sure you can see both green and brown materials. Should

the pile start running low on one of the ingredients, you can supplement it. It is most important to do this for the 'brown' material.

How do I know when the compost is ready to use?

There are a few simple indications you can use to determine when a compost pile is ready to use.

- 1 – You can no longer recognize the green and brown materials
- 2 – It is black, light, and earthy.
- 3 – It smells like good dirt!

The image below is a good example of ready to use compost.



If your pile meets all three criteria, then you are good to go! Use that compost! If you are still seeing lots of green pieces, or bits that are recognizable then it may not be ready. Just turn it and give it a few more days.

Do you need a compost bin?

Nope. You do not need a compost bin to make compost. I have never bothered with one, and I make over 50 gallons of compost per year.

Compost bins can have some benefits such as moisture control and tidiness. And for compact yards they can be great at hiding compost piles. There is no single, right way to compost. You need to find the best system for yourself.

Do you need to keep a compost pile covered?

No. A compost pile does not need to be covered. But, covering a compost pile can help with maintaining proper moisture levels by preventing evaporation.

So, when it rains on an open compost pile, the pile can get too wet to where the good bacteria slow down or stop. So, you need to dry it out by turning it a few times in a day, or spreading it out for a bit.

I've never bothered to cover mine. I turn my piles every 2-3 days. When turning the pile, if I think it is too dry, I just go get the hose and add some water.

Will animals attack my open compost pile?

Since your pile is open, it is perfectly reasonable to assume that some animals will eventually rummage through your pile. It all depends on what you are putting in your pile, and what kind of animals live near you as to how large of a problem this will be.

I have animals (rabbit, fox, raccoon, opossum) and I've found that they will sometimes attack my pile if I compost watermelon rinds, or excessive amounts of sweet tropical fruit rinds or skin.

How to use your compost

I use compost in several ways. All of these ways are good and beneficial.

1 – **Topdressing my garden.** I spread a layer of compost on my [vegetable garden](#). This adds organic matter, increases my soils fertility, increases water infiltration, absorption, and drainage of the soil.

2 – **Mixing into a hole when I back-fill.** So, when I plant a new plant. I will add a handful of compost to the hole I dig and mix while back-filling. This provides a localized boost of organic fertilizer to my plant. While at the same time improving my soil's drainage and moisture retention.

3 – **Topdressing my lawn.** I spread compost on my grass to provide a layer of organic matter. This helps improve my lawn which helps reduce the amount of weeds.

==>See how to [topdress your lawn with compost here!](#)

4 – **Top dressing around trees and shrubs.** Adding a ring of compost around the base of trees (a few inches from the trunk) can really help saplings to take off the following growing season.