



Creating Compost to Enrich Soil

A compost bin is an ecosystem for macro- and micro-organisms that breaks down raw organic material into dark nutrient rich soil. Therefore, you need the basics for sustaining that ecosystem. Because a compost pile mimics Nature by decomposing organic matter, starting a compost program is relatively easy. The design can be simple and will result in nutrient-rich soil to use in a garden. This document will provide you with some of the basics for building and maintaining your own compost pile.

What You Need:

Variety: It's a good idea to avoid too much of one kind of food. Generally, raw material is divided into carbon heavy material (tending to be brown, yellow, dry or bulky) and nitrogen heavy material (tending to be vegetable waste and is moist). Almost anything can go into a compost pile, but there are a few items that are best left out.

- Coal ashes don't do so well in compost because they tend to create sulfur when broken down. However, regular ashes do just fine.
- Animal products attract unwanted pests
- Diseased plants are perhaps not a great idea. Granted, when the compost is up and running, the normal temperature should be hot enough to kill off most diseases. However, better safe than sorry. It's better to burn diseased plants first and then add the ashes.

Air: Make sure that oxygen is getting to every part of your compost is essential for the quality of your future soil. Without air, composting becomes a longer process and results in soil of lesser quality. Getting air into the compost is most easily achieved by turning your pile regularly with a pitchfork or a shovel, allowing the compost matter to mix well with oxygen in every corner of your pile.

Here are some more techniques to keep compost aerated:

- Poke holes into the pile, or build it around a series of sticks that are then pulled out to make air ducts into the center of your compost.
- Build your compost bin less than 5ft tall to avoid the weight of the matter compressing the pile, forcing air out.
- Place pipes with holes drilled in them or chicken wire formed into a cylinder into the center of the pile in order to provide access for air to the center of it.

Water: It's important that your compost pile is not too wet or too dry, and that moisture is evenly distributed throughout. A good consistency is that of a damp sponge. Here are some tips for maintaining good moisture levels:

- Layer wet material with dry, water-absorbent layers like straw or newspaper

- Make sure the pile has good drainage
- If need be, water each layer that's added
- Turn your pile. This will eliminate any moisture pockets and aerate the mixture.
- Having some sort of cover is a good idea to retain moisture and heat, and for animal control as well. If you have a bin, a cover can be made of pretty much anything that will keep the rain out. If it's a free pile, a layer of hay on top works well.
- The shape of your pile can help as well. In dry climates, try a concave-shaped top, which will trap moisture. In wet climates, try a convex top that will shed water.

Heat: Organic material decomposes more quickly when kept warm. A healthy compost pile is somewhere between 120 and 160 degrees F. This might mean your pile needs insulation or some way to cut the heat, depending on the climate (note: a good way to reduce a pile's heat is to turn it more often). If you're having trouble maintaining a high enough temperature, consider the size of your pile. On average, anything less than a 3 foot diameter isn't quite large enough to sustain the proper amount of heat.

Bin design: A compost system usually consists of at least two separate piles. That way you can have one pile to which you actively add new material, and one that you let sit while it's decomposing (a process that takes several months, depending on environment)

Any compost design will work as long as your pile is getting enough air, water, and warmth. Here are some structural ideas that might help if you seem to have a shortage of air or heat:

- Not enough air: turn the pile more often, or as stated before, add porous pipes or chicken wire formed into a cylinder to create air ducts directly to the center of a pile. One downside of pipes is that they can make turning your pile difficult. Also think about what type of building material you're using to make your bin. If you're having trouble with air flow, maybe try a porous wall such as chicken wire.
- Not enough warmth: If your compost is chronically cold, try using brick or cement to build the walls of your bin. The advantage here is these materials soak up the warmth from the sun during the day, and transmit it into the pile at night. However, two downsides are that it doesn't breathe well and the dry brick/cement might draw moisture out of your pile. If this is the case, try dripping water down the insides of the wall, making sure they stay wet. Otherwise, you could insulate the pile with straw.

Building Your Compost Pile:

Find some good-looking soil (rich and dark) and sprinkle a good amount of it into your pile. This will introduce all the microorganisms that will do the decomposing. For each layer of organic material you add, sprinkle some good soil and a little water. Between every few layers of plant matter, add an insulating/aerating layer such as straw or newspaper. Worms are great to have in your compost since they not only help to digest your pile, but they aerate it too. Worms can be introduced or attracted naturally by having an open boarder between your compost pile and regular ground.