



Creating Compost to Enrich Soil

Because a compost pile is basically facilitating what Nature would be doing anyway, (decomposing organic matter) starting a compost program is relatively easy. There are, of course, a number of compost containers on the market today that create optimal composting conditions, but it doesn't have to be complex in order to have 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:

A compost bin is essentially an ecosystem for organisms (both macro and micro) that break down raw organic material into dark nutrient rich soil. Therefore, you need the basics for sustaining that ecosystem.

Variety is the spice of both life and decomposition. It's a good idea to avoid too much of one kind of food. Generally, raw material is divided into carbon heavy material (as a rule of thumb, tending to be brown, yellow, dry or bulky) and nitrogen heavy material (tending to be vegetable waste and is moist).

Almost anything you want 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.

Make sure that oxygen is getting to every part of your compost can be a bit tricky, but is extremely important for the quality of your future soil. Without air, anaerobic decomposition will occur which will result in a longer process and 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 be well mixed with oxygen into every corner of your pile.

Here are some more techniques for avoiding compost suffocation:

- Poke holes into your pile, or build your pile around a series of sticks that are then pulled out in order to make air ducts to the center of your compost.
- Don't build your compost more than 5ft high since the weight will compress your pile, forcing air out.
- Placing pipes with holes drilled in them or chicken wire formed into a cylinder into the center of your pile in order to provide access for air to the center of your pile.

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
- Make sure your pile has good drainage
- If need be, water each layer that's added
- Turn your pile. This will eliminate any moisture pockets
- Having some sort of cover is a good idea both for moisture, 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.

Organic material decomposes much quicker if there is enough warmth to facilitate the process. 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, you might think about 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 that you actively add new material to, and one that you let sit while it's decomposing (a process that takes several months, depending on the environment)

There are any number of compost bin designs, and really any of them will work fine 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 any of these things:

- Not enough air: as stated before, porous pipes or chicken wire formed into a cylinder create air ducts directly to the center of a pile. One downside, though, is that they can make turning your pile awkward.

- Also think about what type of building material you're using to make your bin. If you're having trouble with air flow, think about using a porous wall (again, perhaps 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.

Building your pile: Building your compost pile is pretty straightforward. With every layer you add, water a bit, and sprinkle a bit of good soil so that there are microorganisms throughout.

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.

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.