

HOW TO BUILD A COMPOST PILE – Simply and Easily

By Richard Czaplinski, Revised August 1, 2017

It's encouraging that many people are becoming motivated to have gardens, grow some of their own food and to store food in root cellars. Many are also becoming more aware that composting garden and household food wastes can not only enrich garden soil and conserve a valuable resource but also that composting eases the pressure on our landfills (aka dumps), which are filling up much too rapidly.

I found that many people want to compost but think it is too complicated and therefore too much trouble. Composting is really quite simple. Here are some instructions that give the basics to get you started.

Find an out of the way spot that is relatively flat. Imagine two five-foot diameter circles side by side. (NOTE: A three-sided bin is not necessary.) These will be the spots where you build the first pile and the spot onto which you build the second pile (using the first pile as material for the second) after the first has runs its course of temperature rise and fall (about 2 to 3 weeks).

1. The bottom layer of the pile should be rough, rather dry material such as big stalked weeds or thin woody brush. This layer should be about three or four inches thick and have a lot of air holes so air can enter the bottom of the pile to provide the necessary oxygen for the microorganisms in the pile.
2. With this base, add a layer of dry (brown) material such as hay, straw or leaves about three inches thick. This is the carbon layer.
3. Next add a layer of green material such as fresh cut grass clippings, freshly pulled or cut garden weeds and the vegetable compost from the kitchen. This green layer, the nitrogen layer, should be about three inches thick also.
4. The last layer of this sequence is soil that provides a good population of microorganisms. Sprinkle a few shovels of soil over the entire pile so that soil is in contact with the material underneath, probably less than an inch thick.
5. At this point, if the material added is dry, some water should be sprinkled over the pile. But not too much. The pile should be moist but not soggy.
6. Now the pile will be about a foot high and the layering sequence outlined in Steps 2 through 5 are repeated – layer of brown stuff, layer of green stuff, layer of soil, water if needed. That's all there is to it.
7. Continue this layering sequence until the pile is at least four feet high. A compost pile needs to be big enough (at least a cube three feet on each side, preferably four feet on each side) to retain enough heat to provide a favorable environment for the microorganisms to multiply and break down the compost material. If properly built, a compost pile will heat up to as much as 150 degrees F in several days or more. By two weeks the temperature may have fallen back down to a 100 degrees F or less.

8. At this point, the pile should be rebuilt using the layering sequence outlined above, except that the soil may be omitted and the old compost pile is used as the brown material. Fresh green stuff and garden/kitchen materials are used for the green layer. (NOTE: As you rebuild the pile, put outer layers of the old pile into the central portion of the new pile. This helps to degrade the material (plus weed seeds and pathogenic organisms if any) that was not subjected to the high temperatures and vigorous bacterial action)
9. This pile is left to “cook” for two or three weeks at which time it can be used as compost in your garden. Some sorting or screening out of material that was not completely broken down may be necessary. However, this rougher material will continue to decay in the garden in areas where rougher material will not hinder the gardening being done. Or you may choose to rebuild the compost pile again. (NOTE: Use a coarse screen such as ¾ or 1 inch hardware cloth or just a six-tined fork to separate out any larger and unfinished material)

These simple steps will get you started and I hope motivate you to learn more. There are many resources that can aid you in becoming a skillful composter. Try this website for more information: <http://www.compostingvermont.org>.

Here are few other considerations that may aid your composting ventures or answer some questions you might have:

- A. Winter. In the winter season, unless you have a greenhouse, compost material must be stored until spring when things thaw out and you can begin to work the pile again. You’ll need a fence, container or other means to keep domestic and wild animals and birds out of the stored material.
- B. Meat Scraps and Bones. These can be composted in the home compost pile in small amounts but will take longer to degrade. And such materials are more attractive to birds and animals. (Also see I. Bears, below)
- C. Rainy Periods. If your compost pile gets too wet the bacteria won’t be very happy and will slow down considerably. To avoid this, you can cover the pile during heavy rains. If the pile gets too soggy, you’ll have to rebuild the pile using ample dry materials to balance the wetness and allow air to enter the pile.
- D. Additives. I don’t put additives into my compost piles but some folks say that the composting process is considerably hastened by using additives. You can investigate, try them out and see if it’s worth the extra effort and cost.
- E. Compost Thermometers. I have a compost thermometer and I have found it very interesting to see how the temperature in the pile increases up to 140 degrees F (that’s hotter than the water in your hot water tank!) or more and then coasts down as the bacteria run out of the right balance of food and air. You really don’t need a thermometer because you can always dig into the pile a bit and see and feel what’s going on or if anything isn’t going on.
- F. Compost Materials. Always be on the lookout for materials to add to your compost pile. Grass clippings, garden weeds, leaves, kitchen wastes, sawdust/wood chips, and anything along these lines that your neighbors might throw away. There is never enough compost!

- G. Ashes. Ashes may be added to the compost pile in small amounts. They make a good soil amendment as they can increase the pH of soil and the phosphorus levels. I don't put ashes into my compost piles. I apply them directly to the orchard, fields, woods and garden (but not on potatoes as the increased pH contributes to scab).
- H. Urine. I have composted my urine for decades. It is relatively safe; it supplements the green, nitrogen rich part of the compost pile and provides phosphorus and potassium to your garden. (NOTE: Urine, usually considered sterile, may contain pathogens which can cause diseases: typhoid, paratyphoid fever, leptospirosis and yersiniosis. Carefully managed thermophilic composting kills these pathogens and even those in human feces. (See The Humanure Handbook by J.C. Jenkins)
- I. Bears. The key to not attracting bears to your compost pile is do the composting in a systematic way. This means saving your kitchen waste in a five-gallon bucket (or two if you have a lot of kitchen scraps) over a period of two to three weeks when it is time to rebuild the compost pile. **NOTE: Any bones and meat scraps should be save in a separate container as these are handled differently.** When composting is done correctly, it takes about three weeks in the summer for the pile to go through its heating up and cooling down cycle as the bacteria do their work. A compost pile, if built correctly will often reach a temperature of 150 degrees F or more. At the end of this cycle, it's time to rebuild the compost pile with new material that has been saved up (kitchen waste, garden weeds, grass clippings and bones with meat scraps (nitrogen part) and old dry leaves and sawdust (carbon part). When rebuilding the pile, dig a hole in the earth in the center of where the new pile is to be built a foot or more deep. The bones are buried and the compost pile is built over them so the bears can't smell them. The kitchen scraps are placed in the center of the pile a bit at a time as the pile is built up.

If any questions come up, feel free to call me at 496-3437 or email (rczaplinski@madriver.com).

Happy Composting.

NOTE: As mandated by Act 148 passed by the Vermont Legislature in the session ending May 2014, all food scrapes and materials capable of being composted or recycled will be banned from landfills in stages by July 2020.