



For more information call: 321-633-1702  
lsealsagent@ufl.edu

FACT SHEET # FS 6079 HORT  
Date: 08/2006

## TIPS FOR COMPOST SUCCESS

Author: Sydney Park Brown

Remember these important points: Organic matter will decompose with or without oxygen. Anaerobic decomposition (without oxygen) is slower and releases gases that have offensive odors. Aerobic decomposition is faster and releases gases that do not have an odors. Rapid, successful composting depends on the major factors listed below:

1. **Aeration/Temperature**-An un-tuned compost pile will usually take three to four times longer to compost. A tuned pile reaches higher temperatures which in turn destroys weed seeds and pathogens. Turn when the temperature in the center begins to cool below 104 degrees F. This introduces oxygen and undecomposed material into the center and subsequently regenerates heat. The volume of a compost pile (the combined depth, width and height of a pile) plays an important role in sustaining higher temperatures in a pile.
2. **Moisture**-A compost pile should remain 40-60% moist-compost should feel moist, but water cannot be squeezed out of it. Dry materials will not decompose efficiently. Excessive moisture forces out air and the pile becomes anaerobic and smelly.
3. **Particle Size**-The smaller the size of the materials added to a compost pile, the faster decomposition will occur. Cut up big chunky stuff with a shredder or lawn mower. However, some bulky materials such as leaves, pine needles, chipped twigs and straw keep the compost pile from settling and allow air to enter.
4. **Nitrogen**-Microbial activity is affected by the carbon to nitrogen ratio (C/N ratio) of the organic material. (See page 3 – “Backyard Composting of Yard Waste”). The ideal C/N ratio for compost microbes is 30/1. This balance can be achieved (for example) by mixing two parts grass clippings (C/N=20/1) with one part leaves (C/N=60/1). Because the microbes require a certain amount of nitrogen for their own growth, a shortage of nitrogen will slow down the composting process considerably. A nitrogen fertilizer can be substituted if an adequate supply of “green” organic materials is not available:  
Nitrogen Sources for Compost Piles

(Amount for 10 square feet, 6 inches deep)

5 cups	6-6-6 fertilizer (6% N)
1 cup	Ammonium nitrate (33% N)
2 cups	Nitrate of soda (16% N)
3 cups	Blood Meal (12% N)

1 ½ cups Ammonium sulfate (21% N)

(Note: Sawdust is very high in carbon; add 6 cups of ammonium nitrate (or the equivalent) for every 100 pounds of dry sawdust.

5. Lime- During the initial stages of decomposition, organic acids are produced and the pH of the compost becomes acidic. In the past, small amounts of lime have been suggested for maintaining and enhancing microbial activity. However, high rates of lime will convert ammonium nitrogen to ammonia gas, which will lead to the loss of nitrogen from the pile. In general, lime is not necessary for degradation of most yard wastes. The pH of finished compost is usually slightly alkaline without the addition of lime. In many areas, the water used to moisten the compost pile is sufficiently alkaline to increase the pH of the compost. If large quantities of pine needles or fruit wastes are composted some additional lime may be necessary. Wood ashes are a source of lime and should be added to a compost pile only in small amounts if at all.
6. Location-Place compost unit or pile where it will be used and not interfere: near garden or kitchen. Away from drying winds and in partial sunlight to help heat the pile. More wind and sun =more water it will need. Place the pile near water source.
7. Inoculation-Studies have shown that there is no advantage in purchasing a commercial compost starter or inoculum. Microbes from soil or organic matter are just as efficient in decomposing the waste as those provided by the commercial inoculum. As you build the pile, add a one inch layer of soil or completed compost to every 12-18 inch layer of yard wastes. Yard trimmings contain enough microorganisms to effect decomposition.
8. Cover-If you are using an open bin or pile, a cover is optional. It will allow you a bit more control over temperature and moisture. You can use a piece of fiberglass or plastic tarp. Place the cover, so that it is supported above the pile and not resting on top of the pile (or it will cut off the flow of oxygen). A cover can also help keep unwanted critters out of the pile.
9. Kitchen scraps-Anything that was once a plant (e.g. vegetable peelings, cooked vegetables without sauces) can be added to a compost pile, but to avoid odors and rodents, don't use animal products. Egg shells (a source of calcium and lime) are fine, but not eggs. Moldy kitchen scraps are not a problem. Bury kitchen scraps in a clockwise rotation at least 6 inches deep in the pile. Kitchen scraps contain enough moisture that extra watering will probably not be needed.
10. Manures-Use manures from any barnyard animal, i.e. those that do not eat meat. Do not use feces from cats and dogs, as these often have harmful parasites. Either rotted manures (ones that have started to decompose) or fresh manure can be used.
11. Weeds-Weeds with immature seed heads can be added to a compost pile without a problem. It is not advisable to add large amounts of seed-laden weeds or diseased plants to the compost pile if the resulting compost is to be used in the garden. It is usually impossible to mix a pile well enough to bring all wastes to the center and assure complete destruction of seeds and disease organisms.
12. Moss-Spanish Moss can be composted, but will probably be slow to decompose. Shredding or chopping it up in some fashion will make it (like everything else) compost faster. Some gardeners claim it makes good mulch.

13. Ants-A cool pile may invite ants. As a general rule, ants are welcome residents since their tunneling activity aerates the pile. However, if stinging ants invade your compost, disturb the ants as much as possible to make them leave-e.g. turn the compost and spray the ants with water.
14. Newspaper-Black and White newspaper can be composted. It has low nitrogen content and decomposes slowly. It tends to layer and restrict air flow unless shredded. Soak shredded newspaper and cardboard for an hour or two before adding it to the pile. Overall it's recommended that newspaper be recycled rather than composted.
15. Worm Bed-Like to fish? It's easy to create a ready supply of fishing worms in your backyard. Locate a cool, shaded area of the yard. Cultivate a 4x4 foot area by removing all grass, weeds, and plants. Mix generous amounts of compost into the top 6 inches of the soil. Purchase a small container of worms from your local fishing supply outlet and pour them onto the prepared area. Cover them with a few inches of finished compost and add a few more inches of oak leaves over the top. Keep moist and every 2 weeks sprinkle a cup of grits, corn meal and/or crushed eggshells over the area.
16. Is it finished? Before compost can be used in most horticultural applications, the temperatures in the product must be no higher than ambient temperatures. The more mature compost is, the closer its temperatures are to the ambient air temperature. If compost is used as a soil amendment or potting soil before the temperatures have dropped to ambient levels, there is a high potential for root damage. "Unfinished" compost can be safely used on top of the soil as mulch.

Information compiled by Sydney Park Brown, Extension Agent IV, Environmental Horticulture,  
Hillsborough County Cooperative Extension service, 5339 South C. R. 579, Seffner, FL 33584,  
813/6445519