OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

Composting

Composting is a natural biological process. Any organic material will decompose on its own; however, building a compost pile can greatly speed the process. By encouraging thermophiles (heat-loving bacteria) to dominate the compost pile, the time it takes to break down will be decreased and the heat generated will kill weed seeds and disease-causing organisms.

Container: A container for a compost pile is not mandatory, but it does facilitate managing the process. It should be located on level ground, preferably in the sun to facilitate heating the pile. It should be constructed of material that does not restrict air flow, such as mesh wire or louvered boards.

Structure: The ideal compost pile is built in layers. Alternate green layers of fresh vegetable matter with dry layers of weathered material, and absorbent layers with wet layers. To ensure aeration, it is a good idea to drive vent stacks into the center of the pile. These can be bundles of cornstalks, perforated pipe, or tubes of wire mesh.

Particle Size: Almost any organic matter can be composted. Since decomposition is a surface area phenomenon, the material should be reduced to the smallest particles possible. Running the material through a chipper-shredder is ideal; however, if one is not available, yard waste can be spread on the ground and run through a rotary lawn mower several times. Kitchen wastes can be chopped up in a food processor. Large or bulky material can be chopped with a machete.

Carbon/Nitrogen Ratio: The ideal carbon to nitrogen ratio for a compost pile is around 25/1. If it is much higher than this, decomposition will be very slow, and nitrogen should be added in some form. In general, materials that are not green, such as sawdust, straw, and dried leaves, will need a nitrogen addition. Good sources of nitrogen are manure, fertilizer, meat scraps and bone meal. Adding two to three pounds of nitrogen supplement to every 100 pounds of highly carbonaceous raw material will usually bring the C/N ratio down to within a reasonable range.

Moisture: Water content is very important. If it is much higher than 60 percent, there is a risk of bad odors created by anaerobic decomposition. If it is much lower than 40 percent, organic matter will not decompose rapidly. The optimum pile should always have the consistency of a wrung-out sponge. Ants swarming the pile are a symptom of too little water.

Turning: Turning the pile is not mandatory but greatly decreases the decomposition time. Hot compost is frequently turned every three to four days, or when the temperature drops below 104 degrees Fahrenheit. Cold compost can be turned as infrequently as every six weeks.

This publication is issued by the Oklahoma Department of Environmental Quality authorized by Robert Singletary, Executive Director. Copies have been prepared at a cost of $0.053 each. Copies have been deposited with the publications clearinghouse of the Oklahoma Department of Libraries.
(Fact Sheets\LPD\Composting.indd 10/2024)