COMPOSTING SERIES

Active vs. Passive Composting
(Hot vs. Cold)

Description

All living organisms live, die and eventually decompose. This decomposition process removes organic material to make way for new plants to grow while also releasing stored nutrients back into the system, which other organisms use to sustain themselves. Composting simply enhances the natural process by providing more favorable conditions for bacteria, fungi and other decomposing organisms, such as worms, sowbugs and nematodes, to do their work. While a dead tree may take many years to decompose naturally, by chipping the tree into small pieces and adding nitrogen sources, moisture and oxygen, we can complete the process in six months.

Active "Hot" Composting:

Active composting takes a lot of active steps from the operator during the process to achieve the finished product. The process is know as hot composting because, if done correctly, temperatures in the compost system will be in excess of 150 degrees Fahrenheit, which will kill disease pathogens and weed seeds.

The primary difference in active versus passive composting is turning or stirring the material periodically to allow for the reintroduction of oxygen and moisture required by the feeding microorganisms. This mixing can be done by various means, including manipulation with a pitchfork, use of a tumbling composter or forcing air in to the material with high pressure.

Passive "Cold" Composting:

As the name implies, passive composting requires much less effort, but the process does take much longer. Another drawback is that passive systems rarely achieve the temperatures required to kill disease pathogens or weed seeds, which can be a big problem when the compost is transferred to the garden. For best results it is recommended that you follow the guidelines for adding material to the pile, which include particle size, necessary moisture and carbon/nitrogen ration guidelines. The LSU AgCenter also recommends cold composting systems remain open on the bottom so that the material is in contact with the soil. This will allow better access to the material from decomposing macro organisms like worms and sowbugs. Care should be taken not to add diseased plants or weed seeds to a cold composting system.

Passive Cold Composting

The three-bin system may also be used as a passive cold composting operation. Although this method will not kill pathogens and weed seeds, it does require much less effort than the hot composting system while still allowing for segregation of the different stages of decomposition from raw material to finished compost.

Passive composting is also a much slower process and can take over a year to make finished compost. In a three-bin system you will add all of the organic material from the year to one bin. For the next two years you will fill the remaining two bins. At the end of the third year, the material in the first bin should be finished compost. Remove the finished compost for use in your garden. Repeat the process and begin adding fresh organic material to the newly empty bin.

1. Add all compostable material for the first year to bin No. 1.
2. Let sit for two years.

3. The following year add all compostable material to bin No. 2.
4. Let sit for two years.

5. Add all material from the third year to bin No. 3.
6. At the beginning of year four, empty bin No. 1 and continue the process with each subsequent bin per year.

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