Earth-Kind®
Texas AgriLife Extension Service

Composting Leaves:

Fall is a special time of year in Texas. Cooler temperatures seem to reinvigorate landscape gardeners and stimulate a variety of new projects. Maybe now is the time to take on that home-composting project you've been thinking about. Not a bad idea given the large quantity of leaves we will soon be dealing with. Here are some suggestions on how to get started.

Leaves present less of a challenge in both collection and composting than do other organic yard wastes. In most cases compost is built from a variety of landscape trimmings and rakings. Starting with leaves and grass clippings and adding some brush or wood chips for aeration is an excellent mix to begin the composting process.

In looking at compostable materials consider the amount of time each material requires for breakdown. High nitrogen materials, like grass, will break down very quickly while wood chips may take up to two years to reach the humus stage. The wider the carbon:nitrogen ratio (C:N), the longer it will take for breakdown to occur. Coarse materials, such as straw, nut shells, corncobs and stalks, also take longer to breakdown. However, the greener and more succulent the material, the more quickly breakdown occurs. All materials that are high in carbon should be cut or shredded into small pieces before mixing them with high nitrogen materials, such as manure or fresh grass clippings.

Do not discount the use of coarse particles in the compost pile. These materials typically breakdown more slowly and provide increased aeration for the pile. Coarse materials are very important is establishing the optimum particle size distribution for the composting process.

It might take several attempts to get the right mixture of materials that will yield the perfect distribution of particle sizes for composting. Mixing different types and sizes of organic materials will provide a well- drained and aerated compost pile that holds enough water to promote decomposition. The more varied the materials going into the pile, the better chance of maintaining the proper C:N ratio and efficient decomposition.

Earth-Kind uses research-proven techniques to provide maximum gardening and landscape enjoyment while preserving and protecting our environment.

The objective of Earth-Kind is to combine the best of organic and traditional gardening and landscaping principles to create a new horticultural system based on real-world effectiveness and environmental responsibility.

The principal goals of Earth-Kind include:

- ☑ Water conservation
- ☑ The safe use and handling of fertilizers & pesticides
- ☑ Reduction of yard wastes entering urban landfills
- ☑ Landscaping for Energy Conservation

As your interest and knowledge in these areas grows you will have an increased awareness of the many programs, practices and activities that are Earth-Kind. Working together we can make a difference in conserving and protecting our valuable natural resources.

AgriLIFE EXTENSION
Texas A&M System

For more information see our Web site:

EarthKind.tamu.edu

Microorganisms need nutrients, primarily carbon and nitrogen, for both energy and growth. The ideal carbon:nitrogen (C:N) ratio is not found in any one organic source. Due to their high carbon content, leaves may take 5 months to 2 years to compost by themselves. However, leaves will compost and turn out a good finished product if moisture is adequate and if the pile is turned frequently, ensuring a good supply of oxygen.

Mixing other organic wastes with leaves is an important step in optimizing the decomposition process. High nitrogen materials, such as grass clippings or other plant wastes, animal manures, food scraps etc. can speed up the decomposition process and increase the nitrogen content of the end product, making it more suitable for use as a soil amendment. The high nitrogen component must be carefully controlled because the addition of too much nitrogen can result in the formation of ammonia, creating an odor problem. The rapid decomposition also uses up oxygen, causing further problems as the aerobic microorganisms are replaced by anaerobic microorganisms.

Most all organic materials will decompose, but not all of these materials should be used in a compost pile. Some organic wastes attract rodents, dogs and cats, while weeds and pathogen-infected materials may survive the composting process. Cat and dog fecal materials, as well as cat litter should NOT be used in the pile due to potentially harmful health issues.

Grass clippings are high in nitrogen and can be added to the leaf pile. However, high moisture and high nitrogen content in the grass clippings require that they be mixed into the pile with other materials in order to reduce the anaerobic conditions that can occur from grass being “clumped together” in the pile. A mix of 2-3:1 (leaves:grass clippings) is generally considered optimum for decomposition in the compost pile.

However, as the materials decompose, it becomes increasingly difficulty to maintain the desired leaves:grass ratio. After leaves are collected in the fall and wind-rowed, they undergo a substantial reduction in volume due to the burst of microbial activity that occurs within the first month of composting. By the time grass clippings are being collected the following spring and summer, the leaves may be reduced in volume by as much as 50%.

If leaf/grass clipping mixes are to be composted, leaves collected in the fall should be stockpiled without turning until grass collection begins in spring. At that time, form a pile with the appropriate mix of stockpiled leaves and grass clippings. The leaf piles will likely be anaerobic and some short term odors may be generated when the piles are disturbed.

Leaves typically allow more oxygen into the pile to help maintain aerobic conditions. Grass clippings, because they are high in nitrogen and moisture, provide needed nitrogen speed decomposition, and restore vigorous composting activity to pile. Again, experimenting with mixes is the best way to find the mix that works for a specific location.

Leaves/Grass/Pruning Mixture

It would be an ideal situation if all of the yard trimmings produced could simply be mixed together and composted. However, since woody materials, such as prunings, decompose so slowly this may not advisable. Woody materials in the compost pile can also cause problems with the turning. Another alternative in certain situations is to grind the woody wastes to mix with the grass and leaves. Woody materials should make up no more than one-third of the pile. Remaining ground woody materials should be kept separate to be used as a mulch, while the leaf/grass mix is used as a compost.

Composting is an important Earth Kind practice that can help extend the life of urban landfills throughout Texas. For more information on composting we invite you to visit our composting web site at...

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