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Composting For Better Gardens & Environment

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Every good gardener knows that one of the secrets to successful flowers and vegetables is growing in a soil rich in organic matter.

Yet, most native soils are woefully short of this special ingredient. Peat moss, composted cotton waste, other compost products, and finely ground pine bark are just a few of the products commercially available.

However, right under our feet is a source of free organic matter that just needs a little processing. Every autumn, consumers can turn the colorful display of tree leaves that turns into a regular chore of raking and disposing of huge piles of leaves into organic matter by composting.

Composting has been around forever. It's been taking place in forests since time began (if it didn't, we'd be buried in leaves after a few years), and folks have been making compost for hundreds of years.

Organic matter is essential for the support of the teeming microscopic life that lives in soil. As things decay, they release into the soil over a period of time a wide range of essential major and minor plant nutrients. Humus and composted matter improve the soil structure and drainage, promoting better root growth and increased absorption of rainfall and water, and help reduce runoff, pollution and the loss of essential plant nutrients.

Composting is merely a way of organizing, and, if needed, hurrying up the natural process of decomposition.

Folks who compost usually fall into one of three categories: those who pile up leaves, clippings, wood chips, etc. and literally forget about it until perhaps years later; those who want/need it as fast as it can be produced; and the majority of folks in between who will invest some leisure time and energy in producing compost for use in the garden. There is no right or wrong way to compost – a pile of leaves, brush or wood chips will break down into unrecognizable organic matter in several years, while the same ingredients can be reduced to compost in just a few weeks by hot composting. The end results will be similar – a great soil additive for better plant growth.

Fast and slow compost products are not identical. Fast composts generate a lot of heat that kills pathogens and many weed seeds and will be rich in microorganisms. Slow compost might be higher in nitrogen content, although it too can lose nutrients due to long exposure to weathering. The qualities of any finished compost will also vary based on the original composted components.

Hot composting involves combining shredded raw ingredients in the proper proportion, starting with sufficient volume of materials (at least three cubic feet), keeping the moisture content

high, and frequent turning to regularly introduce air as the pile settles and breaks down.

There are many commercial bins, and there are good plans available for building a two- or three-bin system. A three-bin system organizes the process into beginning, middle, and storage compartments. Bins keep composting areas neater and can keep unwanted vermin out of the pile if they have lids (which also reduces leaching away nutrients by rainfall).

Before adding compost materials, provide some sort of aeration for the bottom of the pile. Place a stack of twigs and small branches, or an old wooden pallet, on the ground first. Once the pile is created, the open bottom will allow air to enter the pile from below. As heat is generated and moves upward, air will be drawn in through the bottom to help keep the pile aerated.

For best results, use a combination of materials that provide both carbon and nitrogen sources. The abundant availability of leaves during the fall usually provides the backbone of most compost piles. All types of leaves can be composted, including oak, pecan, hickory, and walnut (don't use walnut leaves exclusively due to a plant growth inhibitor in them). Brown leaves are high in carbon, as is straw, hay (watch for seeds), pine needles, twigs, newspaper, wood chips, and sawdust.

Nitrogen-rich materials include grass clippings (get them now before a hard freeze reduces their abundance), manure (no cat or dog droppings), green shrub/tree trimmings, fresh leaves, old bedding plants, and kitchen scraps. Grass clippings should be blended in with the carbon products such as leaves to avoid matting and producing an anaerobic layer.

Do not add weeds that can become serious pests in the garden soil, especially those which sprout from roots, like Bermuda grass. Also, do not add meat, grease or dairy products or the compost pile may be visited by rodents and other unwanted critters.

Coarse materials should be shredded or chopped to speed decomposition. Add green and brown materials in roughly equal proportions. As a four- to six-inch layer of material is added, wet it thoroughly, and add a small amount of finished compost or rich garden soil. Continue adding layers until the pile

is a minimum of three cubic feet (3' x 3' x 3'). This minimum size is needed for holding the heat generated by the decomposition process and prevents the pile from drying too quickly.

After the pile goes through a heating process, stir up the contents to reintroduce air and move the dry outer materials to the inside. If the contents have begun to dry, water as the pile is stirred. Continue to stir and wet the pile every few weeks to keep the composting process working.

Finished compost can be used in many ways, including adding to flower and vegetable gardens, or as a component of potting soil. Compost tea can be made and used to water potted plants and new garden transplants or as a foliar spray in the garden. Compost can also be used as a mulch, or for top dressing the lawn.

Here are a few potential problems and their solutions:

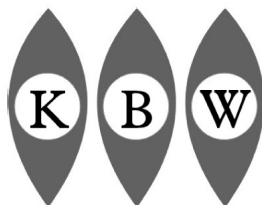
If the compost has a bad odor, it may not have enough air, or the pile is staying too wet. To correct this, turn the pile to introduce air; or add coarse, dry materials such as sawdust, straw, chopped corn stalks, etc. to absorb excess moisture.

If the center of the pile is dry, either you didn't add enough water, or too much woody, coarse material has been added. Turn and moisten materials; or add fresh, green material and chop or shred contents that are too coarse.

The compost may be damp and warm in the middle but nowhere else. This indicates the pile is too small. Collect more ingredients and mix the old ingredients into a new pile. If the heap is damp and sweet-smelling but still will not heat up, it is lacking nitrogen. Mix in a nitrogen source like fresh grass clippings, manure, worm castings or a very small amount of ammonium sulfate. ☺

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