WASHINGTON STATE UNIVERSITY
KING COUNTY EXTENSION

Community Horticulture Fact Sheet #12

Compost

Leaves, lawn clippings, and other organic waste matter have contributed a tremendous volume to the waste stream that goes into landfills. It is now illegal in many areas to put organic waste into the garbage. Usually residents have three choices: a separate pick-up, trips to a transfer station, or composting. The first two choices cost money. The third saves money, because compost is a valuable soil amendment.

Recycling organic waste products into dark, rich organic matter is very easy. Descriptions of the process often make it sound complicated, but it's not. In fact, it's hard to prevent garden wastes from composting. Instructions just help you do it safely and efficiently.

Compost and Alternatives

Compost is earthy-smelling, decomposed organic matter. It has an almost magical power to improve soil structure. It makes sandy soil hold water and nutrients better. Clay soil becomes more porous and workable. Compost contains nutrients, but additional fertilization usually is needed for best plant growth. Compost is mainly an organic matter amendment, not a fertilizer. Other commonly used organic matter sources are manure and green manure.

Manure should be composted before adding it to your garden. Adding raw manure to the soil in the fall gives it time to break down before spring planting, but winter rains will leach out nutrients.

Green manures, or cover crops, are plants grown to be tilled under to provide soil organic matter. Once forked into the soil, they take at least a few days to break down sufficiently to allow planting. To avoid this delay, many gardeners use them as compost crops. When it's time to plant, the compost crop is cut or pulled and added to the compost pile. The soil is prepared using finished compost from a previous batch and planted immediately.

The use of peat is not recommended. It is a mined product, a natural resource, that develops very slowly, measured against the rate at which it is being consumed. Its use should be reserved for those applications where it excels, such as rooting cuttings. Comparing it to compost as a soil amendment, it comes up short. It is costly, is hard to wet when it dries, provides negligible nutrients, and causes our already acidic soil to become more so.

What Can Be Composted?

Almost all organic wastes can be composted, including grass clippings, leaves, weeds, non-food parts of crops (pea vines, corn stalks, carrot tops, etc.), spent flowers, straw, manure, sawdust and shredded newspaper. Wood ashes can be added, but do not overdo it. Sod is best composted by piling moist sod chunks upside down in a separate pile and covering the whole thing with black plastic. It will break down in about two years.

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Kitchen waste can be composted in worm bins along with bedding such as shredded paper or leaves. It should not be added to your regular compost because it may attract rodents and flies. Meat, dairy and fatty food wastes should never be added to compost

Thoroughly compost lawn clippings that may have been treated with herbicide. Allow several months "curing" before using them in the garden. Dog and cat wastes should never be added to the compost pile.

As the microorganisms decompose the material in your pile, the center will heat up to 140-160°. This may kill some weeds, weed seeds and disease organisms, but many make it through the process. For this reason, gardeners should avoid composting diseased plant parts, perennial weeds that reproduce vegetatively (such as morning glory), and weeds that have gone to seed.

Purchased compost starters or activators are unnecessary. Soil can be added, but it is also unnecessary and makes the compost heavier.

The ideal compost area is easily accessible from the garden but screened from view from windows and outdoor living areas. If it is in a shady area, your bin should be open enough to allow air circulation through the pile.

Compost Bins
Compost can be made by stacking the material in a loose pile. It is usually more efficient and aesthetically more pleasing to use an enclosure. Almost any material can be used to build the bin. It should be at least 3 feet in width, depth, and height. A smaller volume may not compost properly. Make certain one side of your bin can be removed so that you can easily add and turn your compost.

Making the Pile
Start with a layer of coarse material. Undecomposed sticks from a previous pile work well, as do heavy stalks. Most instructions tell you to layer various materials in certain depths and order. In practice, you will add what you have, as it is available. For the best, fastest, hottest compost follow these four laws of composting.

- **Particle Size**. Chop up the materials before you add them to the pile. Smaller particles decompose faster. Shredders are great for leaves, stalks, twigs and branches. A rotary lawn mower does a good job on a pile of large leaves. Machetes quickly reduce tough stalks to more easily composted chunks.
- **Air/Moisture Balance**. Add water as you build your pile, so the material is moist but not soggy. Firm down each layer, but allow it to be loose enough that air can pass through it. A dry pile will compost very slowly; a too-wet or too-compact one will get smelly.
- **Carbon/Nitrogen Ratio**. All organic wastes have a ratio of carbon to nitrogen (C:N). Grass clippings and fresh manure are about 20:1. Sawdust is at the extreme opposite end of the scale at 500:1. Fall leaves run about 60:1. Generally, dead, brown ingredients have less nitrogen than green ones. The ideal ratio for compost microbes is 30:1. Since many available materials are heavy on the carbon side, gardeners often add a sprinkle of

nitrogen fertilizer, such as blood meal, cottonseed meal, or ammonium nitrate over each high-carbon layer. Remember that 30:1 is a goal, not a necessity. Composting may be slower, but it will work with wide deviations from this ideal.

- **Mixing**. Compost microbes are most active at the center of the pile. Periodically turning edge materials into the center creates finished compost more quickly. Although the material can be mixed within a bin, it is easiest to have more than one bin and to mix while shifting the compost between bins. Turning allows you to add moisture or nitrogen, if needed, and keeps the pile loose and aerated. The compost can be turned as soon as the pile cools down after each rebuilding. Turn immediately if offensive odors are noticed.

When Is It Ready to Use?

If you follow all the suggestions above, you can make usable compost in just a few weeks in the summer. If you are a little more haphazard or lazy, six months is more realistic. Even if you break all the laws, the center of your pile will probably be beautiful compost within a year! Finished compost is crumbly and smells earthy. You should not be able to identify most of the parent material. The pile will have shrunk to less than half of its original volume.

Using Compost

Flower and vegetable beds should get 1 to 3 inches of compost annually in the spring or fall. Spade or till it into the soil. Add a bucket of compost to renew the soil between plantings of successive crops. Compost can be used as a top dressing in and around already-planted vegetables, flowers and woody plants.

For an in-depth explanation of compost, go to **pubs.wsu.edu** and search for **EB1784, Backyard Composting**. You may download the publication at no charge.

For information on the various types of compost bins and how to build them, go to http://whatcom.wsu.edu/ag/compost/compost_bins_methods.

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