

Buying and Using Compost

Improving the quality of recycled organic products such as soil blends, mulch and compost is identified in Ecology's Beyond Waste Plan, www.ecy.wa.gov/beyondwaste. One way to improve quality is to promote high-quality products to consumers. Using the information in this Focus Sheet, landscapers, gardeners, farmers, and other compost users will recognize and ask for high-quality compost to better meet their needs.

What is compost?

Compost is a product resulting from biological decomposition of organic materials under controlled aerobic (in the presence of oxygen) conditions. Examples of commonly composted organic materials include yard debris, wood chips, tree trimmings, animal manures, food scraps, crop residues, and biosolids (the nutrient rich organic product of the wastewater treatment process).

What are the benefits of using compost?

Compost is primarily used as a soil amendment, mulch material, or an ingredient in soil blends or potting media. Compost helps build healthy soil and plants by:

- Increasing soil organic matter.
- Improving soil structure and fertility.
- Increasing soil drainage and resistance to erosion by wind and water.
- Increasing soil water and nutrient holding capacity.
- Moderating soil pH, which improves nutrient availability for plants.
- Supporting beneficial soil microbes that recycle nutrients and protect plants from disease.

Saving time and money is an additional benefit of adding compost to soil. Healthy soils need less water, fertilizer and pesticides to support healthy plants.

What should I look for when buying compost?

You can buy compost in bags or bulk at most retail garden or landscape centers, or from local producers. Permitted and conditionally exempt composters must meet compost quality standards found in [WAC 173-350-220](#). However, not all composts have labels or are equal in quality, so it is important for you to know how to identify high-quality compost.

In general, high-quality compost* **should**:

- Have a pleasant "earthy" smell, not sour, putrid or like ammonia.
- Be dark brown in color with a loose structure, little or no recognizable woody materials.

MORE INFORMATION

Washington State permitted composting facilities list:
www.ecy.wa.gov/programs/swfa/compost/.

Home composting information:
www.ecy.wa.gov/beyondwaste/HomeComposting.html.

Washington Organic Recycling Council/Soils for Salmon:
www.soilsforsalmon.org.

Natural Yard Care Guide:
www.ecy.wa.gov/biblio/0807064.html.

Soil best practices for builders and new development:
www.buildingsoil.org.

Cornell Waste Management Institute:
<http://cwmi.css.cornell.edu/composting.htm>.

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Special accommodations

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- Have most particle sizes less than 1/8 inch, depending on its intended uses.
- Be moist, not dusty or soggy. When you squeeze a handful, it should make your hand moist, but not drip water.
- Carbon to nitrogen (C:N) between 15:1 and 30:1.
- Contain soluble salts between 2.5 and 6.0 mmohs/cm or dS/m, depending on its intended use.
- Have a pH between 6.0 and 8.5.
- Be mature and stable.

High-quality compost **should not** contain:

- More than 1% contaminants such as metal, glass, or plastic.
- Heavy metals such as lead and cadmium exceeding the state regulatory standards for compost.
- Plant, animal or human pathogens exceeding the state regulatory standards for compost.
- Viable weed seeds.

** Reputable compost manufacturers should be able to provide customers with an analysis of their compost products upon request.*

How do I use compost?

Use the following guidelines for applications:

- New lawns: Mix 1" to 2" of compost into the top 6" of soil prior to fertilization, seeding or laying down sod.
- Established lawns: Spread 1/4" to 1/2" layer of fine screened compost evenly over the surface.
- New garden beds: Mix 2" to 3" of compost into the upper 8" of soil before planting.
- Existing gardens: Spread 1" of compost on top of the soil as mulch in the fall, or mix it into the beds before planting in the spring.
- Planting trees & shrubs: Dig a hole approximately twice the size and depth of the root ball or existing pot. Mix 1 part compost with 4 parts soil, and backfill with the mixture into the hole.
- Mulching: Spread 1" to 2" of coarse compost over flower, shrub and tree beds in the fall. Leave about 3" of mulch-free space around the trunks of trees and shrubs to deter rodent damage. If you want more weed control, cover the compost mulch (which feeds the soil but will support weeds) with 2" to 3" of coarse wood chips.
- Erosion control: Spread a 1" to 3" layer of coarse compost on bare slopes to slow water flow and help hold exposed soil in place.

Moisture content: A percentage of water in compost (on a dry weight basis). Dry compost (below 30%) can be dusty. Wet compost is clumpy and difficult to apply.

Carbon to nitrogen (C:N) ratio: An indicator of the amount of carbon (C) relative to the amount of nitrogen (N). Composts with C:N ratios of 14-20:1 are best for garden and lawn establishment. Composts with higher C:N ratios (30:1 or higher) make better mulches for weed control.

pH: A measure of the acidity or alkalinity. It strongly affects soil properties and what types of plants will grow and thrive in that soil. Most plants prefer a pH of 6.0 to 6.8.

Soluble salts: A measure of soluble salt content expressed as electrical conductivity (mmohs/cm or dS/m). Excess soluble salts may damage salt sensitive plants. Salts should be less than 2.5 for potting mixes, 4.0 for mulch, and up to 6.0 dS/m for use as a soil amendment.

Maturity: A measure of how suitable compost is for seed germination. Immature compost may damage seed germination and root development.

Stability: An indicator of microbial activity in compost. Unstable compost may generate odors and heat as it continues to decompose.

State regulatory standards for compost (WAC 173-350-220(410)), are the quality standards defined by the state composting regulation including those for heavy metals, weeds, and pathogens.

Pathogens: Microorganisms capable of producing disease or infection in plants, animals, or humans.