



Improve the Health of Your Soil



Healthy soil doesn't just happen, but it does make a huge difference in the health and vigor of grass and plants. Healthy soil is composed of sand, clay, and silt. These three ingredients are found in various proportions in all soil. A balanced mixture of sand, clay, and silt is called "loam." A soil with different proportions might be called "sandy loam" (higher percentage of sand) or "clay loam" (higher percentage of clay). A silty soil with little or no sand is called (in order of increasing clay content) "silt loam"; "silty clay loam"; or "silty clay." Loamy soil can be found near the rivers in Eugene, but most of the soils in the other parts of the city have a high clay content. Healthy soil is permeable soil that doesn't retain too much water. Permeability refers to the rate at which water drains through the soil. Coarse-textured sandy and gravelly soils are the most permeable, while fine-textured "clayey" soil is the least permeable. Soil with heavy amounts of clay can be made more permeable by adding organic matter such as compost. Organic matter helps stabilize the microscopic plate-shaped particles of clay and keeps

them from becoming compressed, allowing more rapid water movement within the soil. Tip: Don't amend clay soil with sand, or you will end up with cement-like dirt. Another element that affects the health and permeability of soil is the size of the spaces (pores) between the grains of sand, clay, and silt. These pores determine the amount of oxygen and water that pass through the soil. Poorly-drained soil increases the likelihood that chemicals (i.e. pesticides and fertilizers) used on the lawn and garden will contaminate groundwater. Tilling the ground is a good way to improve the drainage. Amending the soil with compost can often increase pore size and permeability. No matter what kind of soil you have, it can be improved with the addition of organic matter such as compost.

What you can do:

The first thing to do when you want to improve your soil is to have it tested. Send a sample of your soil to the laboratory of your choice to have it analyzed. For a list of soil-testing laboratories, call the OSU Lane County Extension Office at 541-344-5859 or (800) 872-8980. Be sure to request recommendations as well as results from the lab so you will know how to amend your soil deficiencies. Different plants require different nutrients so it's important to plant accordingly. In general, nitrogen promotes leafy top growth, phosphorus promotes root development, and potassium promotes winter hardiness. Specific recommendations can be found in publications available at the OSU Lane County Extension Office. Publications are also available on line, at www.osu.orst.edu/extension.

For More Information:

Lane OSU Extension Service
996 Jefferson Street (corner of 10th Ave. and Jefferson Street)
541-344-5859 osu.orst.edu/extension.



Eugene Public Works
Stormwater Program



541-682-2739



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