

Dr. Steve Love, *University of Idaho Extension*

Most plants' nutritional needs are supplied by the soil. Therefore, proper soil preparation will go a long way toward achieving a successful garden.

The ideal garden soil is deep, friable, well-drained and high in organic matter. Soil preparation provides the basis for good seed germination and growth of plants. Managing soils for optimal plant growth is an ongoing process that consists of proper tillage, adding amendments, and proper fertilization and irrigation.

### Regional and textural variation

Soils in Idaho vary widely due to topography, climate, and origin. In southern Idaho, most soils have a high pH

(alkaline) and contain very little organic matter. These soils may need extra applications of phosphorus and micronutrient fertilizers and should never be amended with lime or wood ash.

Northern Idaho soils can have a relatively low pH (acidic) and contain plenty of organic matter.

Some of these soils may need the pH adjusted upward with lime.

In either location, soils can vary in texture from sand to clay. Sandy soils need constant addition of organic matter, frequent and light applications of water, and constant fertilization. Clay soils may need to be amended with organic matter and/or soil amendments to improve water penetration. It is important to know the characteristics of your soil in order to design an appropriate management plan.



1572089

Gerald Holmes, Strawberry Center, Cal Poly San Luis Obispo, Bugwood.org



5375250

Andrew Koeser, International Society of Arboriculture, Bugwood.org

### Improving soils

No matter the soil type, careful use of various amendments can improve soil and provide the best possible starting situation for your plants. The best amendments provide organic matter: manures, composts, peat moss, crop residues, grass clippings, green manures, bark, wood chips, straw, or any number of other materials. Choose the type of amendment according to availability and cost.

Before fertilizing or tilling, it is best to get the soil tested for nutrients, pH and organic matter. Several labs, both university and private, will test your soil for a fee.

(Contact your UI Extension county office for a recommendation.) Once you determine fertilizer needs, broadcast fertilizer evenly on the soil surface and till it in. Make sure the soil is not too wet during cultivation to avoid compaction.