

Feed Your Soil, Not Your Plants

A beautiful landscape starts with good soil.

Melody Hefner, Program Assistant; Susan Donaldson, Water Quality Specialist;
Heidi Kratsch, Horticulture Specialist; and JoAnne Skelly, Extension Educator



University of Nevada Cooperative Extension

Fact Sheet-12-26

Considering applying a fertilizer to help your lawn, trees and other plants grow? It may not be necessary.

Fertilizers contain plant nutrients. When we add fertilizers to our soil, the nutrients are held on organic matter particles. The organic particles act like a pantry, holding on to the nutrients that plants use for growth.

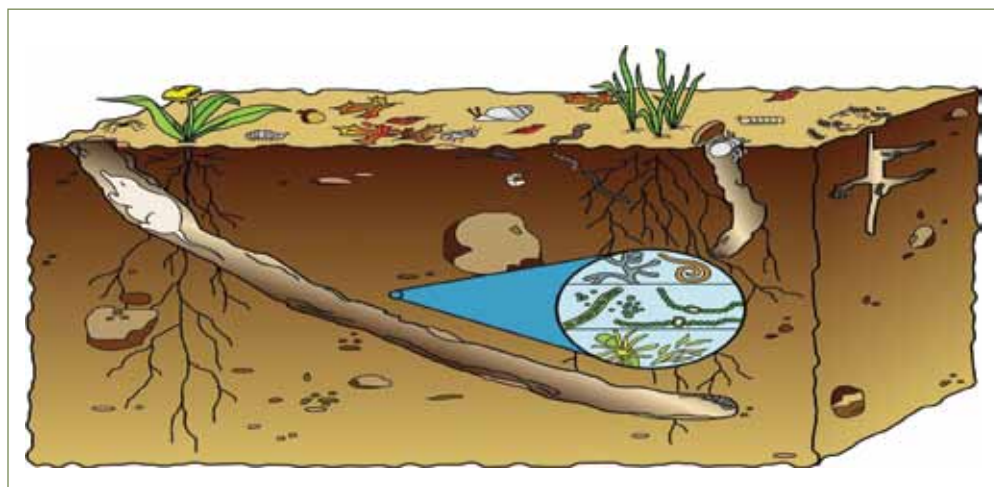
How do you keep more plant nutrients in the soil?

Add organic matter to increase shelves in the soil pantry. By increasing the amount of organic matter in your soil, you increase your soil's ability to hold on to the nutrients until your plants are ready to use them. The organic matter

slowly supplies nutrients as plants need them. Soils that don't have much organic matter can't hold onto soil nutrients very well. When you apply fertilizers to these low-organic-matter soils, much of the fertilizer washes away when you water the soil.

The soil food web

In addition to holding nutrients, organic matter is an important part of the food web in your soil. The nutrients in the soil must be in a form your plants can use. The living creatures in your soil, such as plant roots, bacteria, fungi and other animals, help change the form of the nutrients. Some of these animals are visible, such as earthworms, but many of them are microscopic.



USDA—NRCS

The food web in the soil includes tiny organisms you may never see.

To improve your soil:

- ▶ **Mix in compost or other well-aged organic material.** Use a weed-free product.
- ▶ **Check before you work your soil.** Is it too wet or too dry to be worked?
- ▶ **Protect areas where you want to plant.** Don't walk or drive over them. Plants need water and air in the root zone to survive and thrive.
- ▶ **Keep bare soil covered so the wind doesn't blow it away.** You're working hard to improve your soil. Don't lose it!
- ▶ **Limit the use of non-selective pesticides.** They can kill the good microorganisms in the soil that help provide your plants with the nutrients they need.



University of Nevada
Cooperative Extension

It is important to keep food web microbes healthy to keep your landscape thriving. Like all animals, they need water, food and shelter. Your soil provides this. Soil is not solid. It has pore spaces that can hold air and water. Plant roots grow in these spaces in the soil. The other living creatures in the soil also need pore spaces as a place to live. Organic matter helps the soil form good structure, retaining and increasing the pore space.

What kind of organic matter should I add to my soil?

Compost is the best thing to mix into your soil. Compost is made from organic materials, such as leaves, grass clippings, manure, vegetable peelings and other living materials that have broken down into a stable form. If you add organic materials

that have not broken down, the decomposition process will use up some soil nutrients, especially nitrogen, robbing them from your plants. Use finished compost rather than the raw materials.

How do I add organic matter to my landscape?

It's easiest to add organic matter to a new landscape. To prepare for new lawns, place 2 to 4 inches of compost over the area. Mix it 4 to 6 inches into the soil. For landscape areas, dig it in to a depth of 6 to 12 inches and mix well. For vegetable gardens, work the compost into the soil 8 to 12 inches deep.

For lawns, add up to one-quarter inch of compost on top of the grass. Rake or water it in. Many people do this after they have aerated their lawn. This allows the compost to work

down into the soil by falling into the holes left in the lawn.

You can also add compost around existing plants in the yard or vegetable garden. Put a thin layer of compost around the plants. Don't apply thick layers, as this may damage plant roots.

Many people add organic matter by spreading compost on the soil surface or placing a layer of compost under another type of mulch, such as wood chips. Keep the mulch or compost away from the base of trees or stems of plants to prevent root rot or other diseases.

Where can I get compost?

You can make your own compost from household vegetable waste and garden plant debris. This is a great way to improve your soil and reduce your wastes. If it does not get hot enough, however, the compost may still contain live weed seeds, insect eggs or larva, and plant diseases. Many garden centers also sell compost.

The next time you think you need a fertilizer, first think about increasing your soil's ability to hold onto the fertilizer by adding organic matter to your soil. This is an excellent way to add holding sites for nutrients and water and increase the pantry shelves in your soil.



S. Donaldson, UNCE

Add compost to your lawn after core aeration. Rake it into the holes left by aeration. Don't add more than one-quarter inch of compost to your lawn at a time.

Contact University of Nevada Cooperative Extension (UNCE)



Washoe County/Reno: 775.784.4848

Douglas County: 775.782.9960

Carson City/Storey County: 775.887.2252

The University of Nevada, Reno is an Equal Opportunity / Affirmative Action employer and does not discriminate on the basis of race, color, religion, sex, age, creed, national origin, veteran status, physical or mental disability, or sexual orientation in any program or activity it conducts. The University of Nevada employs only United States citizens and aliens lawfully authorized to work in the United States.

Copyright © 2012 University of Nevada Cooperative Extension

This material is based upon work supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, under Award No. 2010-41534-21617. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture.