

Nevada soil needs help, but it's worth the effort

Amending the earth is an important step toward providing a rich home for your vegetable garden

By **Leslie Allen** ■ Commercial Horticulture Coordinator

THE FIRST TIME newcomers try to drive a shovel into the ground here, they often notice something different. This soil isn't like most soil in California, Idaho, Montana and many other places. Our soils work perfectly for our beautiful native plant communities, but when you try to grow something that isn't from around here, it's another story.

Soil is the foundation of an abundant garden. Attempting to grow food without paying attention to what lies beneath will certainly bring you frustration and unhappiness. To be a successful Nevada gardener, you need to have an intimate relationship with your garden soil.

So, how do you develop an intimate relationship with your garden soil? Follow the old garden proverb that says the best fertilizer is the gardener's shadow. You have to get your hands into your soil on a regular basis and you have to regularly add organic matter. Indeed, the only way to effectively improve your soil is to add organic matter.

Successful gardening relies

on continual soil building. Building soil means building up a large reservoir of plant nutrients by empowering trillions of soil microbes to turn organic matter into biochemical compounds. How do you empower all of these soil microbes into doing your bidding? You have to build them a suitable home! Soil that has been amended with organic matter, aged or composted manure, humus, compost, compost tea, or mulched with straw, wood chips or other organic materials will create an environment that beneficial bacteria, fungi, arthropods and other microbial organisms will find irresistible.

To illustrate this point, think

of a time when you hiked through a heavily wooded area, such as a redwood forest. Now think of hiking through sagebrush country. Do you recall stepping on pine needles and spongy soil in the forest? Forests have huge amounts of organic matter, such as leaves and needles being added to the soil and decomposing regularly. Sagebrush country, on the other hand, doesn't get much in the way of leaves, needles or other organic matter falling on the ground. As a result, we typically try to plant on hard ground that contains very little organic matter.

Organic matter positively affects soil fertility, water

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About this series

This article is the fourth in a University of Nevada Cooperative Extension series on starting your own vegetable garden. To find the complete series of articles, go to our ["Grow Your Own"](#) page at www.unce.unr.edu

Find out more

University of Nevada Cooperative Extension has a wealth of additional information about improving the quality of your gardening soil. Check out the following Fact Sheets, available online at www.unce.unr.edu: [Assessing Soil Quality](#), [Nevada's Soils - Worth the Toil](#), [Nevada Soil Amendment Myths](#), [Improving Lean and Mean Urban Soils](#), [How to Take a Soil Sample](#)



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Compost an inexpensive way to build soil

holding capacity and drainage. You can work it into the soil or simply spread it on top of the soil. Working organic matter into the soil is called amending the soil. If you are planting right away, it is best to work the organic matter into the soil, rather than wait for it to work its way into it. Placing organic matter on top of the soil is called mulching.

Compost is an excellent source of organic matter. If you make compost at home, it is also very inexpensive. You can even add organic matter to your soil by spreading shredded leaves and grass clippings on it. It might take a little time before it starts to decompose and work its way

down to rooting depth, but once the decomposition starts, you will begin to see a big difference in your soil. You can also use horse, cow or chicken manure as an organic matter supplement. Just be sure the manure is aged or composted so that you don't get a weed problem from viable weed seeds in the manure.

Not only do we have soils with very little organic matter and a wide range of drainage issues, we also often contend with soils that have been compacted to 95 percent.

Construction codes demand that the soil our homes are built upon be compacted to minimize settling and shifting. While this requirement

works well for keeping our homes grounded, it is terrible for growing plants. Furthermore, most of the soil around your home may be from somewhere else. It is not uncommon to scrape off native topsoil during home construction, and replace it with fill-dirt of unknown quality and origin. We are asking a lot of our plants when we expect them to grow and thrive with so much stacked against them.

Don't despair this spring as you head into the garden. Turn over a new leaf by paying attention to what's underfoot. Sure, Nevada soils are challenging, but they're worth the toil!



About the author

Leslie Allen is the former commercial horticulture program coordinator for the western area of University of Nevada Cooperative Extension. She is also a 2008 Nevada EcoNet Golden Pine Cone award recipient.

Sheeting mulching can be foundation for a future garden

Sheet mulching is a cheap, easy and effective way to build soil. It is essentially composting in place. It is a simple layering of slashed vegetation, cardboard or newspapers, organic material, topped off with lots of mulch. Over time these layers decompose into rich fertile soil. Sheet mulching mimics the natural way of building soil, that is from the top down. Here's how to do it right.

Slash or closely mow down all existing vegetation and leave it in place. This will provide a damp layer of nitrogen-rich material.

Next comes the carbon layer. Flatten a bunch of cardboard boxes, and lay them down overlapping them by six inches. You can also lay down a quarter-inch to



a half-inch layer of newspapers, torn up phone books, or old pieces of carpet. Soak everything really well with a hose. Wetting down this layer is important. Water is a catalyst to kick-start the decomposition. Once everything is thoroughly soaked, try not to walk on it or you could tear it to pieces.

Next, spread a layer of manure or compost. Wet it all again. The layer of manure or compost will entice

earthworms and other soil organisms up into the sheet mulch and hasten its decomposition.

Finally, top it all off with a thick layer of mulch. Straw is a good choice because it is inexpensive, about \$7 a bale, and can be laid down in 2-inch thick "books." However, straw is not especially attractive; if aesthetics are a concern use arborist wood chips. Most tree service companies will deliver wood chips to your home for free or a small fee.

Sheet mulching is easy, inexpensive, and instantly gratifying. It kills weeds and lawns without herbicides while building the soil without tilling. Sheet mulching is the foundation for creating a healthy garden soil.