



Las Campanas Water Cooperative

SANTA FE, NEW MEXICO

Mulches in the Home Garden

Tracy Neal, 2023

A mulch is technically anything that is intended to help preserve moisture in the soil, though they are often used for aesthetic effects also. Mulches can be organic (such as shredded/chipped wood, shredded tree and shrub trimmings, coarse compost, cotton burrs, bark chips, pecan hulls), mineral (gravels, crusher fines, river rock), or synthetic (plastic sheeting, woven plastic weed barrier). Our native soils tend to be low in organic matter, so mulches that help create a soil with more organic matter support non-native plants better. Some of the organic mulches (shredded/chipped wood, tree and shrub trimmings, coarse compost, cotton burrs) create a more humusy soil with more organic matter over time as they break down, while mineral mulches tend to have little effect on soil conditions and synthetic mulches degrade soil over time. Mulches should generally be keyed to the natural conditions that occur where landscape plants are native, as much as possible.

Most of the deciduous trees we use come from forest environments where the forest floor is covered by a natural organic mulch that breaks down over time and creates more humus in the soil. In order to create a soil that such trees grow best in it is recommended to use a mixture of coarse and fine organic materials, like shredded wood or wood trimmings and fine compost. Such mulches will break down over time and should be replenished on a regular basis. Bark is designed to resist decay and will not break down easily, thus bark mulch is not good for building soils; the same problem is encountered with pecan shells. Pecan shells that are too fresh may also carry some bits of nuts, which can attract mice. Many of the non-native shrubs and evergreen trees we use will also benefit from a mulch that will create more humus in the soil over time as it breaks down.

Plants that are native to desert environments, such as xeric evergreens like Agaves, cacti, and Yuccas, are usually found growing in low-humus soils and quite often grow with a mixture of sand and gravel around them. Such plants typically do not grow best with organic mulches that hold water; they usually grow better with gravel or a mixture of gravel and crusher fines as a mulch. Mineral mulches like these can reflect a lot of heat on sunny days, which can be very stressful for plants that are not native to desert environments. When such

mulches are used to cover large unshaded areas of soil around the house, the reflected heat can make such areas uninviting and can increase the need for air conditioning.

Many of the shrubs native to the environment around Santa Fe, such as Apache plume, chamisa, and mountain mahogany, often have a thin mixture of native grasses growing around them. A groundcover of native grasses makes a good mulch for these plants if the grasses are not too dense. A light layer of coarse woody materials (like tree and shrub trimmings or shredded wood) works well also, especially as plants are getting established in the first few years.

When seeding an area for revegetation with grasses and wildflower seeds, it is helpful to use a natural “glue” or so-called “tackifier” to help seed stick to the soil, especially in our windy climate. Some people use straw from native grasses as a mulch, but this can be blown off by high winds. Sometimes a natural jute mesh product is used on slopes, and while this can help keep seed in place it usually doesn’t biodegrade in our climate and may need to be removed once plants are established. Plastic meshes always need to be removed. Fine mulch or compost by itself can sometimes dry out and “shed” moisture. A mixture of fine mulch or compost and coarse sand (typically sold as “playground sand”) works very well on level sites to keep seed in place and both hold moisture and allow it to sink in. For more information see “Steps to Successful Revegetation.”

One of the products often used to control weeds under mulches is extremely harmful to plants and soil over time; this is the group of woven plastic “weed barriers” that many people use. These products claim to let air and water pass through them, but over time water tends to run off these products and dirt tends to clog the openings and exclude air. The net result is that the soil gets drier and the soil biology, on which plants depend, becomes less healthy. Plants become very shallow rooted and hence more subject to drought stress over time. Adding organic mulches and fertilizers like Yum Yum Mix on top of these plastic barriers does not improve the soil because these amendments have to be in contact with soil biology to break down and build better soil. Organic mulches and gravels that are 3-4” deep will act as weed control, which is far better for plants than weed barrier fabrics.

Tracy Neal has worked in the field of horticulture for over fifty years. He moved to Santa Fe in 1986 to work as the nursery manager at Santa Fe Greenhouses. Since 1995 he has worked as a landscape consultant, designer, and teacher. He became a Certified Arborist in 2000 and is a member of the City of Santa Fe Municipal Tree Board. He currently works as the landscape consultant for the Design Review Committee of the Las Campanas Master Association.