

## The Dirt on Dirt

Let's talk dirt. Now don't get too excited... this isn't going to be the Hollywood variety, but rather a discussion of the stuff in which plants grow. Believe it or not, our local soil is pretty good. It's the stuff either mixed in with it, or we may have done to it, that gives us gardeners problems.

Soil is composed of sand, silt, clay, air, water, and organic material in various proportions. Desert soil, as you would expect, is rather low in organic components. Native & imported low water-use plants have adapted to this composition. So, here is the first tip of the day: it is not necessary to add mulch to your planting holes for most trees and shrubs. Many horticulturists in this area advise against adding organics. There are exceptions. Vegetable and flower beds will need amendments and, if you are unlucky enough to be planting in caliche...well, more on that later.

The air component of soil is very important, as any golf course superintendent will tell you. Golf cart and foot traffic tends to squish the soil particles together, squeezing the air out and suffocating the roots. Over watering tends to have the same affect. Sand, on the other hand, helps soil to drain and its irregular shape provides tiny air pockets for the roots of a plant to infiltrate.

The function of clay in the soil is to provide a site for nutrients and minerals to lodge until the plant's roots can absorb them. Without getting too technical, let me just say that all plant nutrients have a charge, either positive or negative, and are attracted and held to sites located on the clay particles.

Some people say the word "caliche" is Spanish for "what in the name of ###\*\*%##! is this ##\$\*\*!" In reality, caliche is a hard, compacted soil cemented together by calcium carbonate (lime.) *Cemented* is the defining word here. If you run into caliche, you will need at least one of the following: jackhammer, dynamite, or a willingness to change the location of the hole. If you do decide to plant in caliche, this will be the time to amend the soil. One can use compost, humus, or any product with a high organic content. The hole will have to be larger than normal, 3 to 4 times the size of the root ball and, most importantly, you will need to see that there is proper drainage. A planting hole cut out of caliche can become an impervious bowl with no way for water to flow through the soil (and yes, plants can drown.) Drainage ditches can sometimes be added to carry the water away from the roots. The bottom line is, if proper drainage is not established when digging the hole, that specimen tree that you just paid high dollar for may soon become your latest landscape casualty.

When planning your landscape (which plants like sun, which plants like shade,) it is also important to give some thought to soil and drainage issues. Your plants will love you for it. And that's the down and dirty!