

COASTAL GARDENER COLUMN

Franklin Laemmlen, Ph.D.

Q: I am making some raised beds. They will be filled with soil and amendments. How much amendment and what kind should be added to make a good rooting environment for my plants?

A: Research has shown that the soil environment in the planting hole, especially for trees and shrubs, should not be radically different from the surrounding soil. This is true especially if the soil is mostly clay. If the medium in the planting hole is very different from the surrounding soil, an interface is created at the boundary and plant roots often have difficulty breaching this interface barrier. In effect, you create a large pot in the ground and most of the plant roots will stay confined to the planting hole. This planting hole “pot” phenomenon is less critical in sandy soil but can still exist. Therefore, when amending the soil to be placed in the planting hole, do not replace more than 25% of the existing soil with amendment. The amendment should then be thoroughly mixed with the soil that is placed back into the hole. The amendment process applies both to bare root or container-grown plants.

Also remember that soil amendments are usually high in organic matter. Organic matter will in time decompose and disappear. This will cause your plants to settle. Hence, when planting trees and shrubs, plant them on a mound that is several inches (3-4) above grade. This way, if and when the plants settle, they will hopefully be at grade or higher and not be in a depression.

Now to the raised beds, finally! If you intend to place perennial plants in the beds, the above rules still apply. If the raised beds will be planted to annuals, i.e., replanted yearly or more frequently, you can fill the whole raised bed with “planting mix,” “potting soil,” or composted manures. Any “ready to use growing medium” can be used. Avoid products which have not been aged or composted such as fresh bark, wood chips, wood shavings, sawdust, fresh manure, or straw. Any “ready to use medium” will gradually decompose

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and settle, but the beds can be top dressed as needed to keep the raised beds full. Ideally, when you add more planting mix to the beds, it should be thoroughly incorporated with the old medium. Of course, filling the beds with a bagged medium will be expensive, so I would mix the planting mix with soil. Take care to get “clean” soil, i.e., free of weed seeds, disease organisms and nematodes. A 50-50 mix of planting mix-soil will make a very well drained, light textured growing medium. If your “soil” fraction is sandy, a 25-30% amendment addition will be adequate to make plant beds that are easy to work with. A last consideration, local sandy soils are very low in nutrients. When you mix organic matter with these soils, nutrients are further tied up as the soil microbes begin decomposing the organic matter. Therefore, pay close attention to fertilizing any crops you plant. They may need a little extra fertilizer so that both the plants and the microbes get enough to eat! Top dressing with composted manure may help ameliorate this problem.

Send your landscape and garden questions to: **The Coastal Gardener, 624-A West Foster Road, Santa Maria, CA 93455.**