

## Landscaping in Poorly Drained Soil



*Photo by David W. Marshall, UF-IFAS Leon County Extension: Muhly grass (foreground) and cordgrass (Spartina bakeri) are two native plants well suited to wet sites.*

*Shauna Winterbottom (Bachelor of Landscape Architecture) is an Assistant Project Manager for Persica Landscaping and is a member of the University of Florida IFAS Leon County Extension Advisory Committee, <http://leon.ifas.ufl.edu/>.*

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Here in Tallahassee we encounter all sorts of site and soil conditions when landscaping. Most sites are easy to work with. But, there is one condition that occurs on many sites in our area that creates a great deal of trouble when it comes to landscaping. That condition is poorly drained soil.

Poorly drained soils are commonly a result of a loss of topsoil and the fact that we are often planting in the subsoil, which has a higher clay content. On construction sites this subsoil has often been compacted by equipment. Good soil drainage on a site is important for plants, but soils with such a compacted layer naturally drain poorly. With poor drainage, the soil stays wet, the plant roots suffocate from lack of oxygen, rot, and die.

Even though poorly drained sites are a problem, they're not impossible to work with. If you have a poorly drained site, first you need to evaluate your options. The easiest, most affordable and wisest method of coping is to simply select plants that can tolerate "wet feet". It is a good idea to try and select plants that are native to wetter conditions and that thrive under them. Start with smaller-sized plants also, if possible, to lessen the chance of shock.

Remember to plant high for the most success. The top of the rootball should be 1-2" above the surrounding soil and does not need to be covered with mulch. You can also elevate the entire planting area by adding six to twelve inches of good-draining topsoil and tilling it into the existing soils below. Do not raise the bed this drastically if there are existing trees already present. The addition of soil over their roots would be harmful.

Some people believe that adding organic material, such as compost, or adding sand will take care of the drainage problems, but many experts disagree. Adding organics should be done on a case-by-case basis. They can be added, but you would need a great deal to have any impact, and that is only assuming that there is not an impenetrable layer of subsoil beneath. Peat moss or manure are added to improve the water and nutrient holding capacity of soils and are, therefore, not really needed in clay soils. Another suggestion is to add sand, but this can create a cement-like mixture that impedes the flow of air and water and is not conducive to root growth.

Adding organic materials to individual planting holes is also not recommended. This will not encourage roots to spread out into native soil and also creates a sponge-like effect in the planting hole when it is surrounded by clay.

In summary, if the problem exists because we're in a poorly drained, compacted layer of subsoil, there is little that can be done to amend the planting soils that will make any appreciable difference to the drainage of the soil. No matter what you do, when the water reaches the compacted layer beneath it will tend to stand and only penetrate very slowly.

Sometimes elaborate drainage systems can be installed to help drain away some of the water. But, because the water must move laterally to reach these drains, their effect is limited.

In conclusion, you can't go wrong with sticking to the mantra of "Right plant, right place." Working with your site, not against it, is the best way to go.

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