

Conditioning Clay Soil

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Gardening in clay soil can seem impossible but it does not have to be. With a little knowledge and elbow grease, your clay soil can improve and drain as well as your plants need. A soil test will give you information you need to take care of your soil.

You can get soil testing kits at the local County Extension. One of the important pieces of information the soil test will give you is the soil pH. The pH for almost all garden plants is a range of 5.5- 6.8 (slightly acidic).

Clay soil is usually very dense, thick, sticky or slippery. It does not drain well. Ironically clay soil is nutrient rich but holds onto the nutrients and plants cannot make good use of them. Plants placed in clay soil that are not acclimated to such a thick soil will die or be stunted. Wet clay soil through the winter is sure death for some plants.

So what can be done? Luckily, clay soil only needs a few things to improve. The most important is organic matter. The OM that you mix into your soil can be in the form of homemade compost (humus), composted cow manure (no, it does not smell!) or leaf mould (a fabulous compost made of only leaves). Whatever you do, do not add peat moss to your clay soil. It does not have the live soil microorganisms your soil needs and your soil will become concrete. Trust me it is not pretty. I have broken tools trying to dig in this type of soil. Stay away from pulverized topsoil. There are no live microorganisms in it and the soil is badly damaged from the pulverizing process. You have to add a lot more OM to repair it.

The OM you add to a bed or landscape does not have to be mixed in very deep unless you have the opportunity to rototill it in about 6-8 inches. It can be worked into the top two inches of soil. Microorganisms in the compost will work their way down into the soil. Thick soil needs more pore space to allow for air circulation (plant roots need oxygen) and water movement.

Clay soil conditioner is the key ingredient to my clay-busting recipe. Clay soil conditioner ironically is made of baked clay flakes- it looks like orange kitty litter (*kitty litter is NOT a good substitute). You can purchase this product under two names. At local garden centers you will find it



under the name Schultz's Clay Soil Conditioner (Profile). You can stop by Conserv Farm Supply (Tinley Park: 708-532-4723) and purchase the same product under the name TURFACE® MVP®. Turface is a lot less expensive. This product reduces compaction, improves aeration/drainage in soil and over time and breaks down the clay. It draws excess moisture away from roots and stores it until plants need it. This product also stores soil nutrients and reduces leaching.

Gypsum is the traditional soil treatment for this situation but works very slowly. I have used it when my pocket book was a little thin.

A very wise gardener (or gardeners) handed down the following formula to me. I cannot remember who helped me with this but I know it works.

Clay-Buster Recipe

- To a 5gallon bucket: fill 3/4 full with organic matter of your choice
- Fill remainder of the bucket with clay soil conditioner
- Add 2-4 cups slow release fertilizer, a granular fertilizer or a little bone meal
- Dump the bucket into a wheelbarrow and mix thoroughly.

When preparing a new landscape bed you can convert this 3::1 ratio for larger amounts and till into the soil.

For most other gardeners you'll be replacing plants a few at a time. When you dig a hole for your replacement plant- make it a little wider and deeper. Take ½ of the clay from the hole and discard. The remainder of the clay will be mixed with some of your clay-buster mixture. This step is important because the plants need to get acclimated to clay before the roots venture out beyond the planting hole. The clay-buster gives the plant the aeration and drainage it needs to stay alive while adjusting to the thick soil around it. Eventually you will amend almost your entire garden because any plant that is stunted or dead will be replaced. If you simply discard all of the clay from the hole and replace with the mixture you will have a bathtub and your plants will die. The hole fills with water and drowns the plant.

Now, after 10 years of using this mixture in my clay pit of a back yard garden, my soil is thick, but drains perfectly. Good Luck to you!

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