

Improve Clay Soil in 5 Easy Steps

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<http://www.doityourself.com/stry/improve-clay-soil-in-5-easy-steps>

Clay soil makes a great foundation for planting soil, but it needs a bit of conditioning first. Not only does it need to be aerated, it also needs to have some vital nutrients added. Clay soils are usually low in organic compounds necessary for life of all types, including plants and the microorganisms which make them possible. The good news is that conditioning clay soil is not a difficult process.

TIP: Changing the texture of clay soil requires large quantities and repeat applications of soil conditioners. Over time with good soil management the soils work-ability or 'tilth' will improve."

Step 1 - Define a Work Area

Working in small areas makes calculating materials easier, and prevents the loss of plant nutrients through sudden rain showers or high winds. To simplify things, mark out one area at a time, approximately 10 feet square. If you are not using a tape measure, 10 feet is roughly equivalent to 3 long strides. For each 10-foot square section, you need approximately 1 cubic yard each of sand and humus material.

Step 2 - Turn the Clay Soil

The existing top soil for clay is usually very thin. The first step in conditioning clay is to turn the existing soil, including the top soil, down to a depth of around 6 to 8 inches. The fastest way to do this is with a garden tiller, but a potato rake or pitchfork will work well if necessary. If turning the soil by hand, wear gloves to avoid blisters. When doing it by hand, turning the clay soil for the first time will take patience, as the clay will tend to clump together.

TIP: Never work in clay soil when it is wet. Always, allow it to dry to avoid compacting the soil."

Step 3 - Add Humus

Broadcast the humus over the prepared area. Use a flat-bladed shovel to distribute the humus by slinging it over the area to be covered. Take care not to concentrate too much in one spot. In addition to nitrogen and other compounds used for plant growth, compost or humus also contains various types of bacteria and soil fungi. These microorganisms aid in the decomposition of plant matter, and help to keep the soil healthy. The resulting soil after application should be much darker, with only a faint graininess. When a handful of the soil is clenched in your fist, it should maintain the shape when your grip is released.

TIP: When adding organic matter, the ideal amount to add is 25 to 50 percent of the soil volume. (So, if you are tilling 8 inches deep, add 4 inches of organic matter.)

Step 4 - Add Sand

Spread the sand just as you did the humus and turn the soil again. If you have a garden spreader available, it will make broadcasting the sand much easier. Once the sand is in place, turn the soil twice, once lengthwise and again side-to-side. Sand separates the fine particles of clay soil, and it is important that the clay is mixed well with the sand. Any random handful of soil should be clay colored, but have a grainy feel rather than the typical slick texture of clay.

TIP: Adding sand directly to heavy, clay soil may create the unwanted result of a denser soil. Instead, skip the sand when it is a heavy clay soil, and apply lots of well composted organic matter.

Step 5 - Note Soil Acidity

To find your soil pH, have a soil test done by your county or state cooperative extension service. You will receive a report that gives you a complete picture of your soil. The analysis usually includes recommendations for additives to improve the soil and adjust the pH. Most crops prefer a pH level between 6.2 and 6.8, however some may require a lower or higher pH.