

KNOW YOUR SOIL TEXTURE



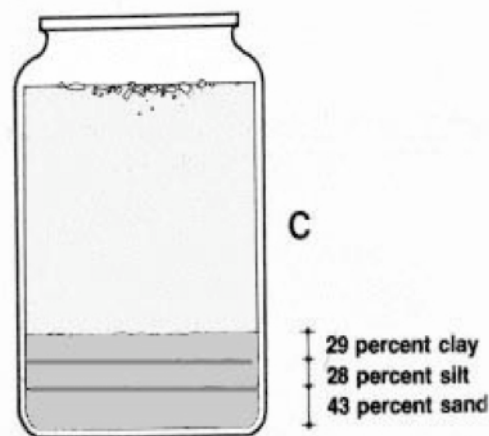
Soil texture is the ratio of sand, silt and clay in your soil. Soil texture influences water movement into and through the soil, root penetration, fertilizer distribution and biological activity. Knowing your soil's texture can help you irrigate and fertilize more efficiently thereby saving water, finances, and improving the quality of your garden, lawn and landscape.

Jar Texture Test

Determining your soil's texture is easy utilizing one of two simple jar tests. Start by collecting garden soil by taking cores about 6 inches deep. Remove all stones, sticks and other debris from the soil collected. Fill a quart jar 1/3 full of soil and add water so it almost fills the jar. To make the test more efficient you can add a teaspoon of liquid detergent. Screw the jar lid on tightly and shake vigorously for several (5-10) minutes and set aside. Do not disturb the jar until the liquid above the soil is clear. This can take a while so be patient.

When the liquid is clear you should be able to see three distinct layers of soil in the bottom of the jar. The layer on the bottom is sand, the middle layer is silt and the top layer is clay. Any material floating on top is organic matter.

Measure the amount of sand, silt and clay and calculate their respective percentages. Once you know the percentages of sand, silt and clay you can use the "Soil Textural Triangle" to determine your soil's texture.



In rare cases it may be difficult to identify the separate layers in the jar. If this is the case there is an alternative technique: however, the results are not as accurate (but close enough for gardening uses). Fill the jar 1/3 full of soil (free of sticks and stones, etc.) and measure the depth of soil in the jar (hint: measuring in millimeters makes calculations easier). Add water to almost full and shake as directed above. Then set the jar down. Measure the depth of soil in the bottom of the jar after 5 minutes. This is the amount of sand in your soil. Measure again after 30 minutes to determine the amount of sand and silt. To calculate the amount of silt, subtract the amount of sand from the amount of soil found after 30 minutes. The amount of clay is the difference between the total amount of soil and the 30-minute measurement.



Using The Soil Textural Triangle

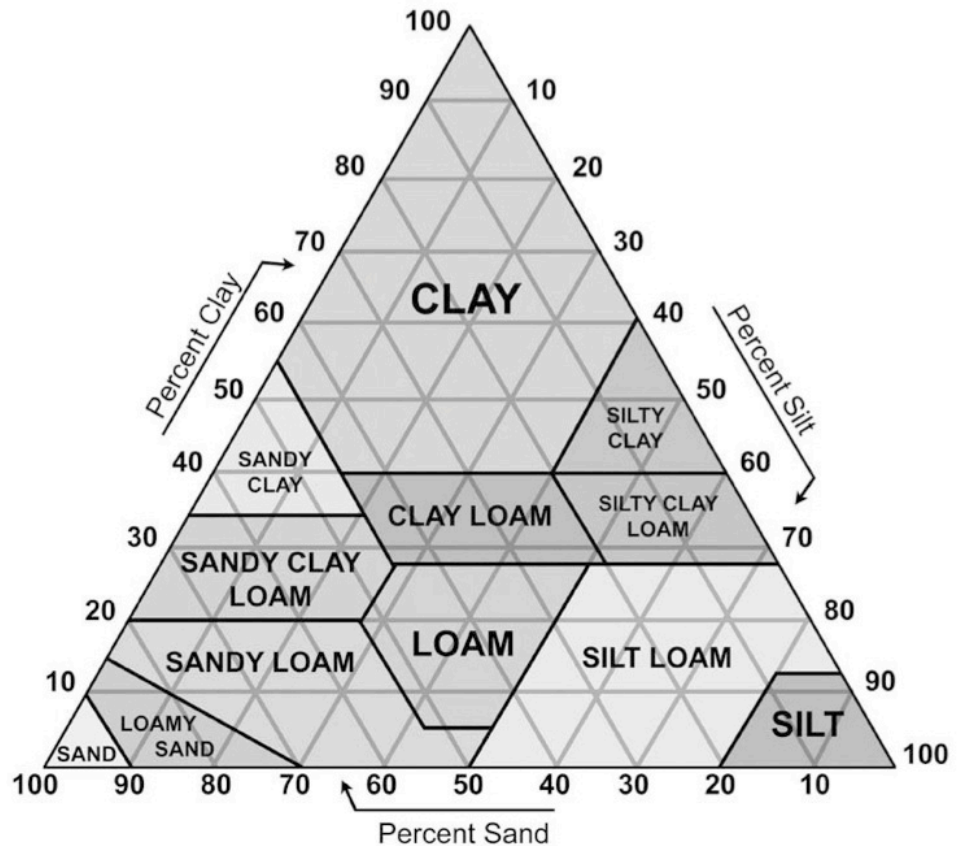
After you have determined the percentages of sand, silt and clay use the soil textural triangle to determine your soil's texture. The texture influences a variety of management practices. Soil texture determines how water moves into and through your soil.

Irrigation needs to be applied slower and for a longer time with clay soils compared to sandy soils. This avoids runoff that wastes water and carries fertilizer and pesticides into our local creeks and streams.

Knowing your soil's texture helps you determine how much irrigation water is required to moisten the plants' entire root system. Although less irrigation to sandy soils is required, more frequent application are necessary. Soil texture also influences fertilization practices. Clay soils hold onto fertilizer better and, therefore, do not need to be applied as frequently as sandy soils.

Managing Soil Texture

If you determine your soil is high in clay you may be tempted to add sand. Conversely, you may attempt to add clay to a sandy soil in an effort to achieve a loam soil. That is the wrong thing to do! Remember that contractors combine sand and clay to make concrete. You cannot grow your garden or landscape in concrete! To improve your soil and the effect of soil texture, the best thing to do is topdress/mulch with quality compost or worm castings. This encourages beneficial soil biology to create and improve soil structure that helps water, roots, nutrients and soil biology move through clay soils. Sandy soils will hold water and nutrients more efficiently with this addition because it will increase the efficiency of your irrigation and fertilization programs and create a more favorable environment for plant roots and beneficial soil biology.



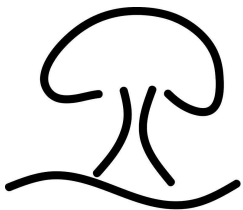
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