

# Identifying Soil Texture by Measurement

1. Spread soil on a newspaper to dry. Remove all rocks, trash, roots, etc. Crush lumps and clods.
2. Finely pulverize the soil.
3. Fill a tall, slender jar (like a quart canning jar)  $1/4^{\text{th}}$  full of soil.
4. Add water until the jar is  $3/4^{\text{th}}$  - full
5. Add a teaspoon of non-foaming dishwasher detergent.
6. Put on a tight fitting lid and shake hard for 10 to 15 minutes. This shaking breaks apart the soil aggregates and separates the soil into individual mineral particles.
7. Set the jar where it will not be disturbed for 2-3 days.
8. Soil particles will settle out according to size. After 1 minute, mark on the jar the depth of the sand.
9. After 2 hours, mark on the jar the depth of the silt.
10. When the water clears, mark on the jar the clay level. This typically takes 1 to 3 days, but some soils may take weeks.
11. Measure the thickness of the sand, silt, and clay layers.
  1. Thickness of sand deposit \_\_\_\_\_ (i.e. 0.85")
  2. Thickness of silt deposit \_\_\_\_\_ (i.e. 0.65")
  3. Thickness of clay deposit \_\_\_\_\_ (i.e. 1.50") \_\_\_\_\_
  4. Thickness of total deposit \_\_\_\_\_ (i.e. 3.00)
12. Calculate the percentage of sand, silt, and clay.
  1. [clay thickness] / total thickness] = 50 percent clay
  2. [silt thickness] / total thickness] = 22 percent silt
  3. [sand thickness] / [total thickness] = 28 percent sand
13. Turn to the soil texture triangle and look up the soil texture class

## Check Soil Drainage

To test drainage, dig a hole about 1 foot deep. Fill with water and allow it to drain completely. Immediately refill the pit and measure the depth of the water with a ruler. 15 minutes later, measure the drop in water in inches, and multiply by 4 to determine how much water drains in an hour.

Less than 1 inch per hour is poor drainage, indicating the site may stay wet for periods during the year. Plants that don't tolerate poor drainage will suffer. 1 to 6 inches of drainage per hour is desirable. Soils that drain faster than 6 inches per hour have excessive drainage, and you should consider choosing plants that tolerate dry conditions and "droughty" soil.

Most plants like soil that is well-drained, so avoid locating gardens and planting beds in places where water pools and stands after heavy rains. Hard layers under the topsoil may be preventing water from draining away. (To find out, try probing the ground with a metal rod or digging into the soil with a shovel.) If for other reasons a poorly drained spot seems attractive, you may be able to break up the hard layer so water won't collect, or build raised beds to help keep plant roots out of standing water.

# JAR TESTING FOR SOIL TYPE

