

Soil Type Test

Equipment: - a shovel or spade
- a baking sheet
- a sieve
- a straight sided clear jar with lid
- a marker
- a tablespoon of detergent
- a ruler
- a timer
- water

Time: 24 hours to allow soil sample to dry
10 to 15 minutes to set up
6 hours for settling time

Method:

1. Take a soil sample (2 to 3 cups) from the rain garden area.
2. Spread the soil out on the baking sheet and allow it to dry over night.
3. Sift the dried soil through the sieve to remove rocks, roots, and large lumps of organic material.
4. Put one cup of the sifted soil into the clear jar.
5. Add enough water to the jar to saturate the soil, or so that the water level is just barely visible above the soil. Measure this level and record it in the space provided below.

Depth of Soil = _____ inches

6. Add the tablespoon of detergent to the jar. The detergent will act as a surfactant and keep the soil particles from clumping together.
7. Fill the jar with water and screw the lid on tight.
8. Shake the jar for three minutes to thoroughly mix soil, soap, and water.
9. Put the jar down on a flat stable surface and start your timer.
10. Measure the depth of the settled material after one minute. This material will be sand, as sand settles the most quickly. Record the depth and calculate and record the percentage of sand in your soil using the equation given.

Depth of Sand = _____ inches

% Sand = (Depth of Sand/Depth of Soil) * 100%

% Sand = _____ %

11. Allow the jar to stand for six hours and measure the new depth of the settled material. This depth, minus the depth of the sand layer will give you the amount of silt in your soil.

New Depth = _____ inches

Depth of Silt (inches) = New Depth (inches) – Depth of Sand (inches)

Depth of Silt = _____ inches

% Silt = (Depth of Silt/Depth of Soil) * 100%

% Silt = _____ %

12. The depth of the clay can be estimated by subtracting the new depth from the depth of soil found in step five as shown below.

Depth of Clay (inches) = Depth of Soil (inches) – New Depth (inches)

Depth of Clay = _____ inches

% Clay = (Depth of Sand/Depth of Soil) * 100%

% Clay = _____ %

References:

<http://www.gardenadvice.com/index.cfm/event/Article.Detail/documentId/49eaa51b155c5f11cf27d9f55942809c>

<http://www.taunton.com/finegardening/pages/g00164.asp>