



SOIL GUIDE & DEFINITIONS

LOW WATER LANDSCAPE REBATE PROGRAM

WHAT IS SOIL, ANYWAY?

Soil is the upper layer of earth in which plants grow, and is a dark or light brown material typically consisting of a mixture of organic materials, clay, and rock particles. The type of soil, or name of the soil, depends on the percentage of sand, clay, gravel, or rock that is mixed in with the organic materials. Soil in northern Arizona generally contains large proportions of gravel, sand, rock, and clay—and native plants here thrive in what most gardeners consider “poor” soil.

Sandy soil: Sand is a naturally occurring granular material composed of finely divided rock and mineral particles. A soil containing more than 85% sand-sized particles by mass is called sandy.

Silty soil: Silt is a naturally occurring loose sedimentary material with very tiny rock particles. Soil containing 80% silt is called silty.

Clay soil: Clay is composed of very fine particles that become heavy and sticky when wet—and hard and concrete-like when dry. Soil containing 50% clay is called clay soil.

Rocky or gravelly soil: Gravel is very small, irregular pieces of rock and stone. It is more rough and rocky than sand, and smaller than stones. Soil that is rocky or gravelly will have a large proportion of rocks or gravel.



Loam: Loam is generally the type of soil that gardeners love. It contains a balance of all three soil materials— sand, silt and clay—plus humus. Humus is a dark-brown or black organic substance made up of decayed plant or animal matter, and is similar to compost. It provides nutrients for plants and increases the ability of soil to retain water. *Note: These proportions can vary to a degree, however, and result in different types of loam soils: sandy loam, silty loam, clay loam, sandy clay loam, silty clay loam, etc.*

Average soil: Average soil is topsoil which is composed of sand, silt and clay, but not necessarily in the same proportions as loam. It will not be obviously sandy, silty, clay-like, or gravelly.

Well-drained soil: Soil that allows water to percolate through it reasonably quickly and not pool. Standing water or saturated soil deprives roots of oxygen.

Moist soil: Soil that is usually slightly damp or wet