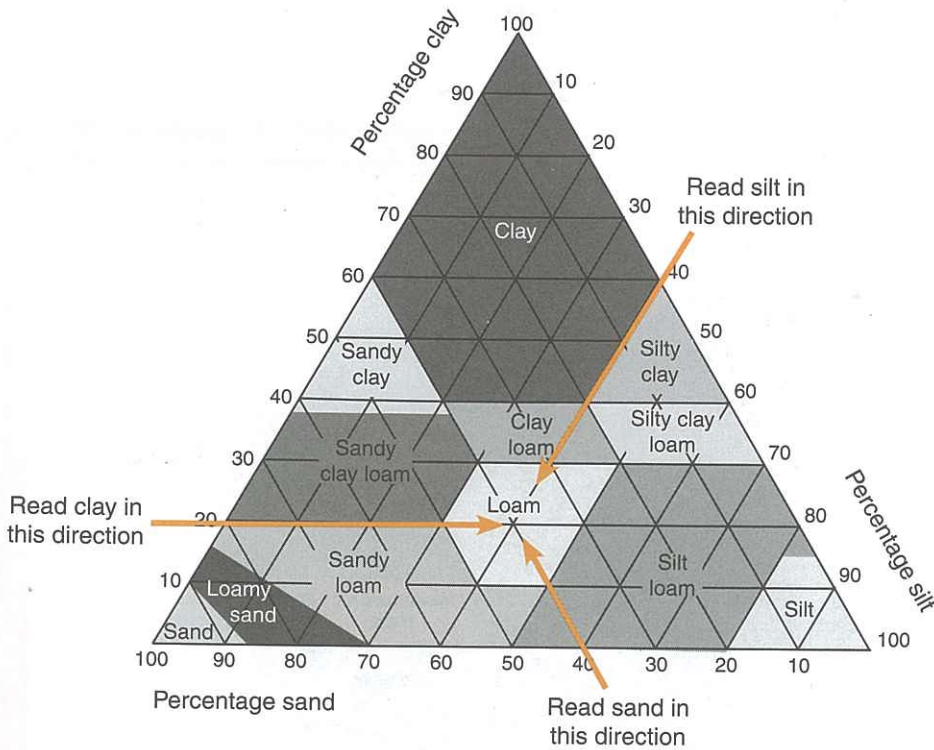


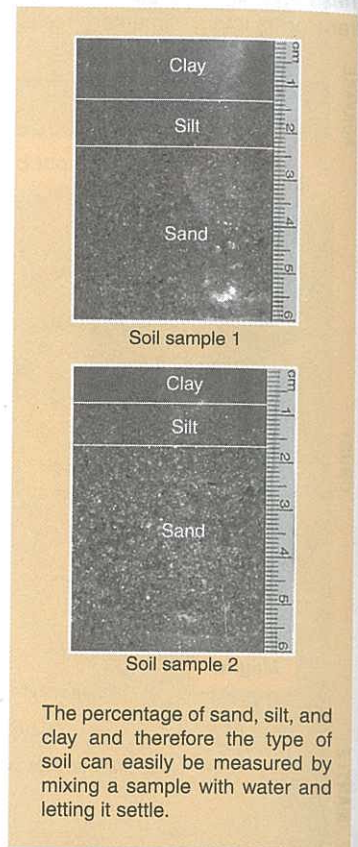
Soil Textures

Soil texture depends on the amount of sand, silt, and clay present. A **loam** contains a 40/40/20 mix of sand, silt, and clay and is considered the ideal soil for cultivating crops. Soils with too much clay hold water, become heavy, and are difficult to work, whereas soils with too much sand allow water to drain away too quickly. A

loam contains enough clay to bind the water and hold it in place, but also enough sand to create spaces between the particles, allowing air to penetrate and water to drain. Because of these features a loam is able to retain nutrients and humus better than other soil types.



A loam consists of around 20% clay, 40% sand, and 40% silt. Around this point, various other loams exist which are named after their primary components. For example a sandy loam consists of around 65% sand, 35% silt, and 10% clay.



The percentage of sand, silt, and clay and therefore the type of soil can easily be measured by mixing a sample with water and letting it settle.

	Clay	Silt	Sand	Loam
Nutrient holding capacity	++	+	0	+
Water infiltration capacity	0	+	++	+
Water holding capacity	++	+	0	+
Aeration	0	+	++	+
Workability	0	+	++	+

0 = low + =medium ++ = high



Loams are easily worked...



...while silts and clays can be very muddy

The capacity of soil to be worked and produce viable crops depends on the mixture of particles within it. Silt provides an moderate capacity in all areas due to its intermediate particle size. By itself it, does not provide good soil as it too easily turns to mud when wet and is blown away by winds when dry. Loam consists of a variety of particle sizes and so remains more consistent in texture when both wet and dry.

1. Explain the term loam and how it applies to soil: _____

2. Using the scale on soil samples 1 and 2 above, calculate the percentage of sand, silt and clay in each sample and then use the soil triangle to identify the type of soil:
 Soil sample 1: % sand: _____ % silt: _____ % clay: _____ Soil type: _____
 Soil sample 2: % sand: _____ % silt: _____ % clay: _____ Soil type: _____
3. Explain why loamy soils are more easily worked and produce better crops than other soil types: _____

