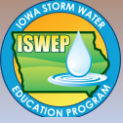


Topsoil Characteristics and Ribbon Test for Estimating Soil Texture



Recommended Topsoil Characteristics

- Color:** Darker, A-horizon, higher organic matter content
- Texture:** Lower clay content, not sticky, won't ribbon out more than 2", <30% clay
- Structure:** Granular
- Consistency:** Loose, friable, no clods
- Organic Matter:** Minimum 2% organic matter
- pH:** 6-8
- Clean:** Free of rocks and debris

Soil Texture

Soil texture refers to the size of the soil particles. Sand, silt, and clay are the variation in sizes of the soil particles. Sand is the largest size and feels gritty. Silt is moderate in size and feels smooth or floury. Clay is the smallest particle and feels sticky. Figure 1 shows the relationship between particle sizes.

Soil Textural Triangle

The USDA soil texture triangle as shown in Figure 2 shows the names of various combinations of sand, silt and clay. A coarse-textured or sandy soil consists mainly of medium to coarse size sand particles with very little silt and clay. A fine-textured or clayey soil is mainly small clay particles. Soils with only 20% clay particles still feel sticky as a clay soil due to the physical characteristics of clays. A loam consists of a relatively even combination of sand, silt, and clay sized particles.

Ribbon Test

The ribbon test is used to estimate soil texture and the amount of clay in a soil (Figure 3).

Procedure: Place a small handful of soil in your palm. If it is dry add water drop wise until it is like modeling clay. Roll the clay into a cigar shape with about a 1/2-3/4 inch diameter. Place the cigar-shaped soil between your thumb and forefinger, and start to gently press the cigar into a flat ribbon shape. As the ribbon develops, let it extend over your forefinger until it breaks from its own weight. If the soil sample does not form any ribbon, the texture of your sample is sandy.

If it does form a ribbon that is less than 1 inch and it feels: gritty, the soil texture is sandy loam; smooth, the soil texture is silty loam and; if neither gritty nor smooth, the soil texture is loam.

If you are able to form a ribbon that is between 1-2 inches long and the soil feels: gritty, the soil texture is sandy clay loam; smooth, the soil texture is silty clay loam and if the ; soil does not have either a gritty or smooth feel to it, you have a clay loam.

If you are able to form a ribbon that is more than 2 inches long and the soil feels: gritty, the soil texture is sandy clay; smooth, the soil texture is silty clay and if the ; soil does not have either a gritty or smooth feel to it the texture is clay.

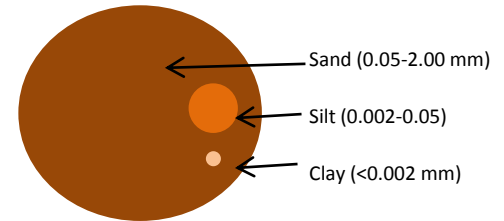


Figure 1. Relative sizes of sand, silt, and clay.

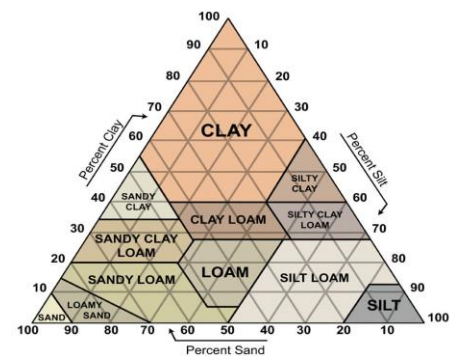


Figure 2. USDA soil textural triangle.

TAKING A SOIL SAMPLE

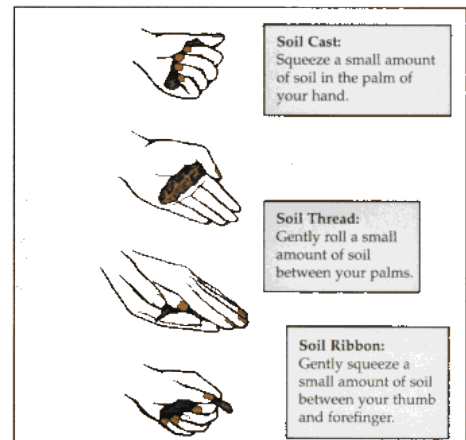


Figure 3. Soil ribbon test.



Soil sample with high sand content. The sample is unable to form a ribbon.



Soil sample with high clay content. The sample is able to ribbon 2 inches.