

Pre-Lab/Background

The purpose of this lab is to test the various chemical levels of soil, and examine the effects of these chemicals are. The first is a gas found in soil called Nitrogen (N), Nitrogen is important for the soil, because it allows the soil to be fertile and provide growth to plants. The second is Phosphorus (P), Phosphorus is vital for soil, because it is a necessary component for plant growth. Third is the compound Potassium (K) is also found in soil. the lack of Potassium in soil can lead to Potassium deficiency which can inhibit the growth of plants. Lastly we can measure the amounts of these compounds in soil by measuring the pH of determining the acidity and alkalinity of the soil.

The Effect of N,P,K, and pH in Soil.

Purpose

The purpose of this lab is to measure the N,P,K, and pH levels in soil. We want to find out what effects these different compounds have on plant growth and what the compounds do to the soil itself.

Hypothesis

If the soil is highly acidic or contains little N,P,K then it is impossible or less effective for plants to grow, because of the low concentration of necessary compounds.

Materials and Equipment

- Cup to hold soil
- Glass jar with lid
- Distilled water with dispersant
- Soil sample
- Ruler

Procedure

1. Gather 200g (1 cup) of soil from sample location.
2. Add soil to the halfway mark on the jar, Add water to fill jar 3/4ths full.
3. Put the lid on the jar, label the jar, and shake for 2 minutes, finally allowing to settle for 24 hours.
4. Lines dividing segments of soil should be visible: Sand (Bottom), Silt, and Clay.
5. Measure the height of the soil in mm (millimeters).

6. Measure the height of each layer in mm (millimeters).
7. Use the formula to calculate the percentage of the soil sample and use the soil texture triangle to determine your soil sample's type.

Data and Observation

Compound	Sample Date
Nitrogen (N): None	2/4/14
Phosphorus (P): P2	2/4/14
K (Potash/Potassium): K4	2/4/14
pH Results: 7	2/4/14

<i>Height of Soil</i>	<i>36mm</i>	
Height of sand	17mm	47%
Height of silt	16mm	44%
Height of clay	3mm	9%

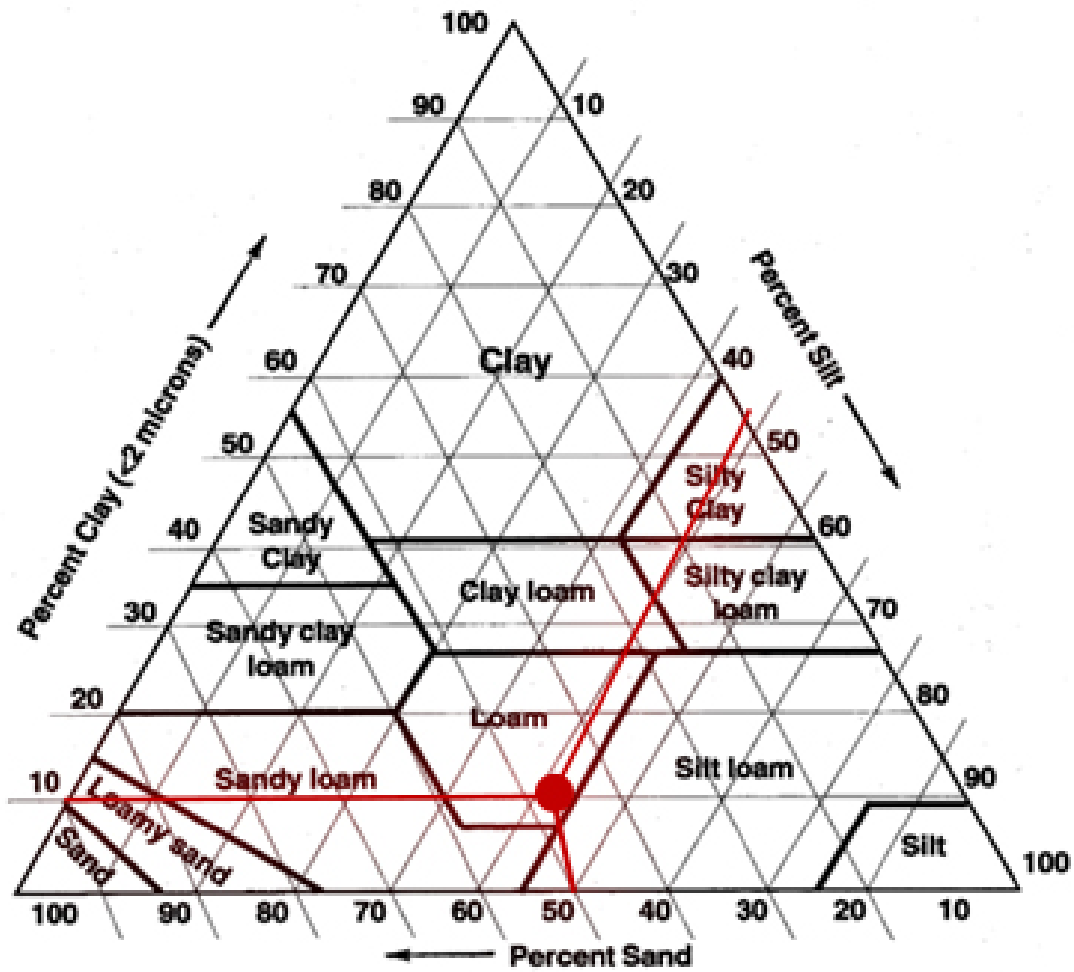
Analysis

Height of Settled layer x 100%

Height of soil originally

Sand: 47% Silt: 44% Clay 9%

Soil textural triangle on the next page*



Conclusion