A picture containing food, plate, drawing

Description automatically generatedLSU AgCenter Home Gardening Certificate Course

Home Lab Activity # 1

Activity Title: **Determine Your Soil Texture**

Materials Needed:

Trowel or other digging tool

Quart size glass jar with a lid that seals

Measuring tool (ruler or tape measure)

Masking tape

Marker (pen, pencil)

Clean container about 1 gallon in size

Instructions:

**1**. Using your trowel, take a six-inch-deep slice of soil about 1 inch thick from several locations in your garden (similar to taking a soil test sample). Put these all into the clean container and mix thoroughly.

**2**. Take your glass quart jar and place a strip of masking tape running from bottom to top on the jar.

**3**. Take about 2 cups of soil and put it into the quart jar (filled halfway).

**4**. Add water to completely fill the jar and wet the soil.

**5**. Place the lid on the jar and shake vigorously back and forth to mix everything together.

**6**. Place the jar on a flat even surface and leave undisturbed for 12 hours or overnight.

**7**. After sitting for 12 hours, you should see three distinct layers have formed in your jar. They are distinguishable by color or texture.

The bottom layer is the densest material and is the sand in your soil. Each particle is larger and heavier than either silt or clay. This layer often forms within a few minutes.

The second/middle layer is silt and has a density between that of sand and that of clay. It may be a slightly different color than the sand layer but will be less grainy.

The third/upper layer is clay and is the lightest particle. It sinks much slower than sand and silt and often takes overnight to show.

If there is a fourth layer that shows or floating on top of the water, that is the organic matter in the soil.

**8**. Use your pen or pencil to make a mark on the masking tape where each of the layers ends as well as the very top of the clay layer. You should have 3 marks on your tape: 1. one where the sand and silt meet, 2. one where the silt and clay meet, 3. one where the top of the clay ends.

**9**. With the jar sitting on a flat surface, measure the height from the flat surface to each of the marks. Any unit of measure will work. #1 where the sand and silt meet, #2 where the silt and clay meet, #3 where the top of the clay ends

**10**. Use the following formulas to calculate the percentage of sand, silt and clay in your soil.

Ht. 1+ Ht. 2+ Ht. 3 = total soil

#1/total soil x 100 = percent sand

(#2-#1)/total soil x 100 = percent silt

(#3-#2)/total soil x 100 = percent clay

**11**. Use the soil triangle to determine what soil texture you have.

***Example***: Sand is 30%, Silt is 50%, Clay is 20%

Find

1. 30 on the Sand edge of the triangle
2. 50 on the Silt edge of the triangle
3. 20 on the Clay edge of the triangle

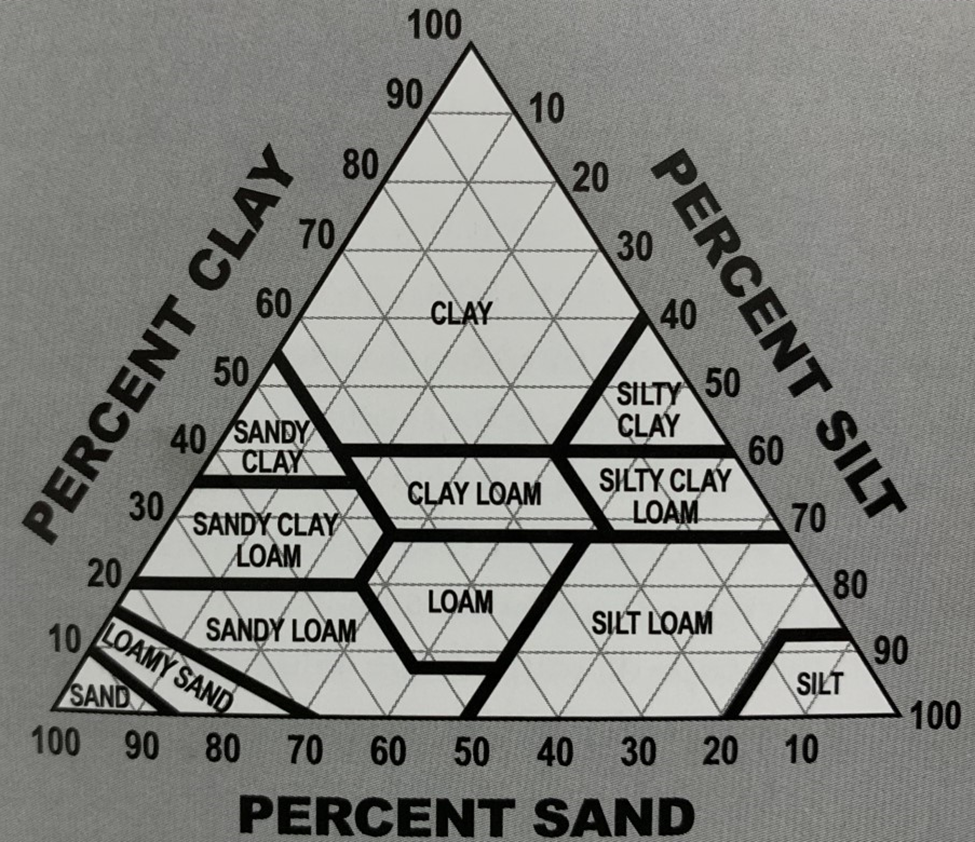
Draw lines on the soil triangle for each of the particle percentages.

Always draw the Sand line toward the Clay axis parallel to the existing lines running in that direction.

Always draw the Silt line toward the Sand axis parallel to the existing lines running in that direction.

Always draw the Clay line toward the Silt axis parallel to the existing lines running in that direction.

The area on the triangle where the three lines intersect tells you what soil texture you have. In our example, we have a Silt Loam soil texture.



Results:

Reminder to post a photo to discussion board link (Optional!):

<https://www.facebook.com/groups/538153443545779/>