Sandy or Clayey? Assessing your Soil Texture at Home.

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About me

- Graduated from University of Tennessee-Knoxville in 2020 with a BS in Environmental and Soil Science
- Member of UT soil judging team from Spring 2017 to Fall 2019
  - 2017-2018 Regional and National Champion team
  - First place individual at 2019 regional competition

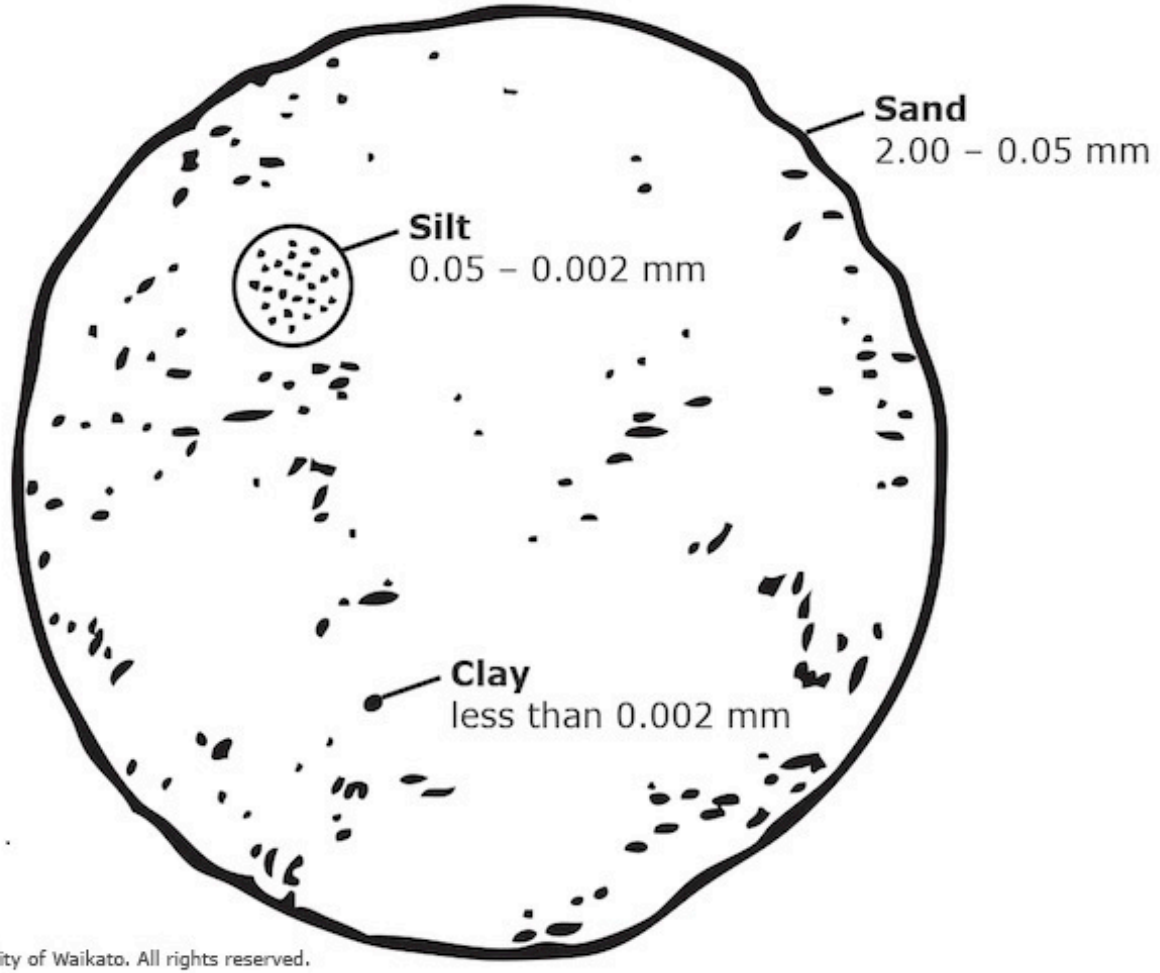
Why do we even care about texture?

- Water Storage
- Drainage
- Water infiltration
- Amount of Aeration
- Ease of working the soil
- Soil Fertility
- Type of topsoil to use

What is Soil Texture?

- Sand : 0.08 in – 0.002 in diameter
  - Only particle size visible to naked eye
- Silt: 0.002 in – 0.00008 in diameter
- Clay : < 0.00008 in diameter

Particle Sizes



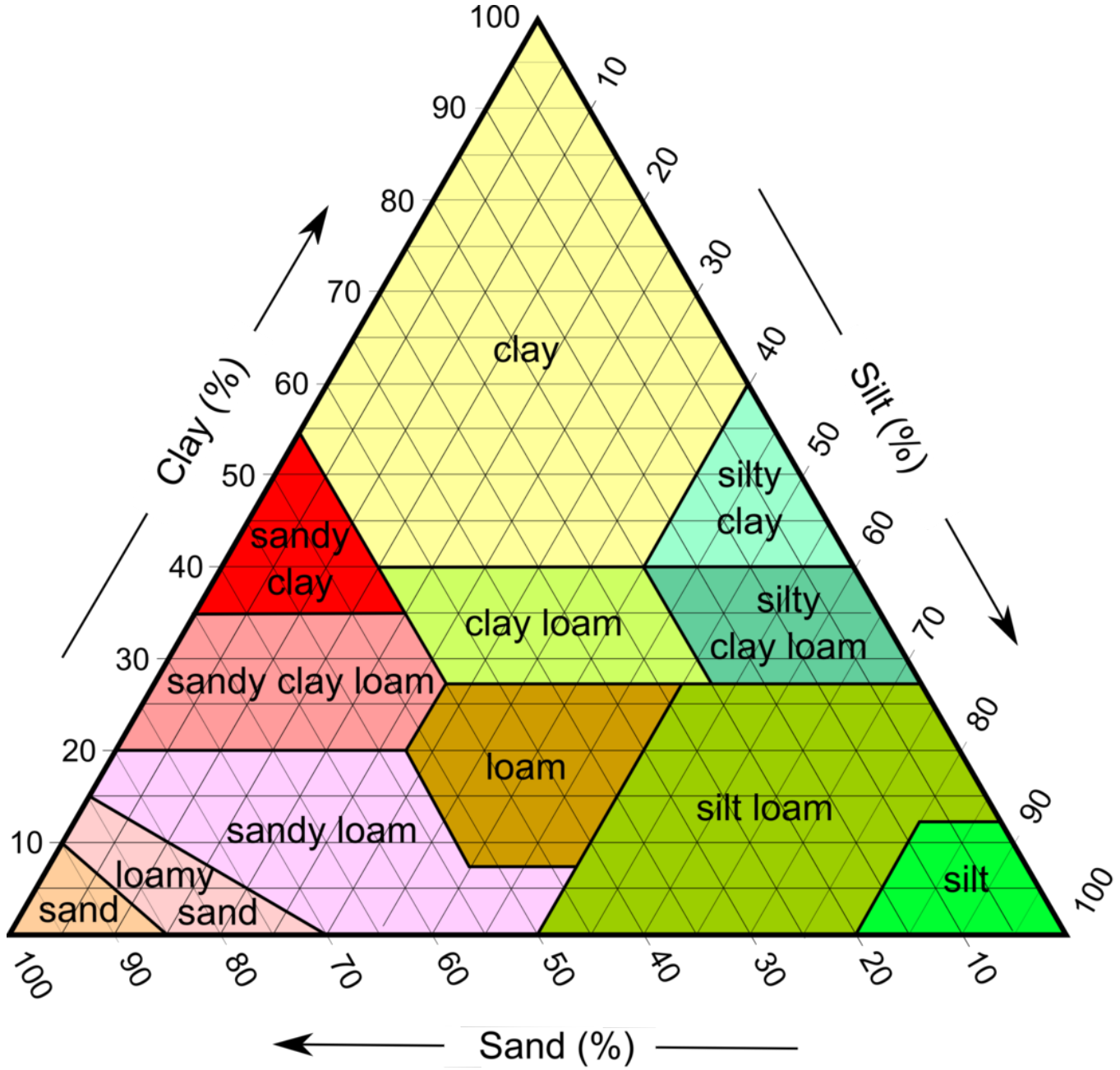
Goals for Today

- Learn how to texture by feel
- Estimate of particle percentages: % sand, silt, and clay
- Determine texture class of your soil

Feel of Each Particle Size

- Clay
  - Sticky
  - Higher amounts similar to modeling clay
  - Hard when dry
- Sand
  - Coarse and gritty
  - Loose feeling at high amounts
- Silt
  - Smooth but not sticky
  - Almost like flour

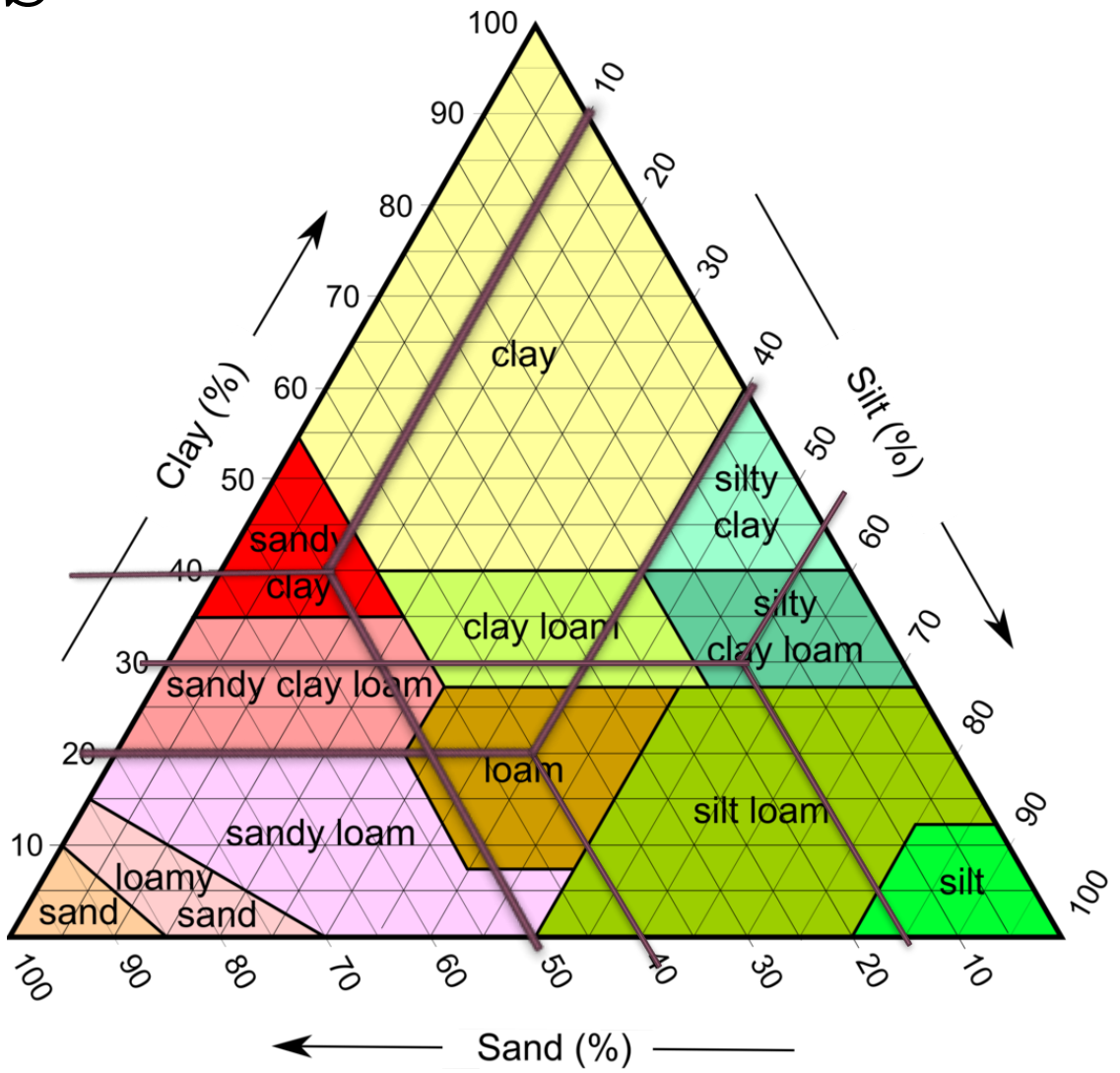
Soil Triangle



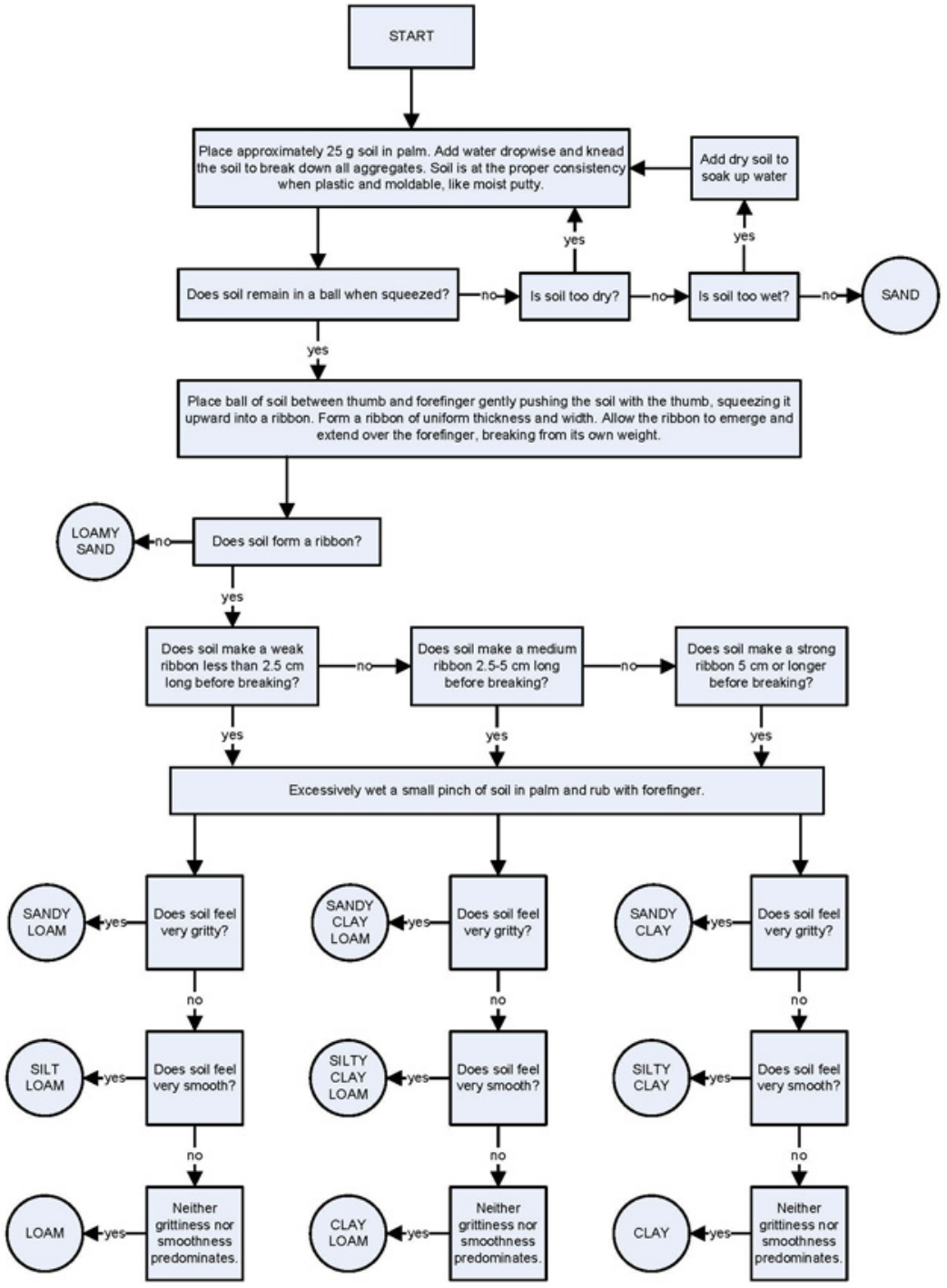
https://thinkingcountry.com/2016/11/30/soil-texture-sand-silt-and-clay

Soil Texture Types

- Determine the texture class from the particle size percentages given
- 40% Sand, 40% Silt, 20% Clay
- 50% Sand, 10% Silt, 40% Clay
- 15% Sand, 55% Silt, 30% Clay
- NRCS soil texture calculator:
  - https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/?cid=nrcs142p2_054167



NRCS Texture Flow Chart



Amount of Soil Needed

1. Place soil in palm of hand
2. Wet soil until moist
   - We want the soil to have a kind of shine on the surface
   - Too much water will cause the soil to fall apart, and you will have to start again
   - Not enough water and you will not be able to adequately feel the particles
3. Try to form a ball in your hands
   - Only soils with high sand percentages will not be able to form a ball
   - High clay soils will feel very firm when working into ball
4. Form a ribbon from the ball

Ball of Soil

- You want a decent amount of soil for the ball
- Notice the shine of the ball
- Try to form a ball in your hands
  - Soils with a lot of sand will not be able to form a ball
  - High clay soils will feel very firm when working into ball
- If you can't make a ball, you have sand

Texturing Process

- We want to try to make a ribbon with the soil
- Push the ball with your thumb over the index finger
- You may have to add more water over time as soil dries out

Partial Ribbon

Soil Ribbon

- Higher clay content leads to longer ribbons

Other things to consider

- Way to help with determining the percentage of sand in soil
  - Put a very small amount of soil in palm of your hand
  - Wet it thoroughly and rub it into your hand
  - Carefully let water fall from your hand
  - All that's left should be sand
  - Compare remaining sand to amount in your hand before you started
- Some people taste it to determine sand
  - I DON'T RECOMMEND THIS
- You can leave fingerprints in soils with high clay contents
- Balls from high clay soils can sometime stay together when thrown

Thank You

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