Know Your Soil - Soil texture explained

Soil texture is an estimate of the amount of sand, silt and clay particles present in the soil.

Many physical characteristics of the soil depend on texture, and the clay content is very important. Soil texture affects it's drainage and structure, which in turn, affects how plants will grow in the soil.

The clay and organic matter help to bind soil particles together, which are an indicator of:

- Good soil structure
- Good soil drainage
- Root and seedling penetration
- Aeration

Soil Texture - Activity

Step 1 - Sieve your soil

If your soil is damp, you will need to dry it before sieving

Using an old 2mm sieve to remove stones and gravel and then break down any lumps in the soil with your fingers to make it easier to work with.

Step 2 - Estimate % of stones or gravel in the soil

Make a visual estimate of the percentage of stones and gravel in the soil from step 1.
This helps you to estimate the water capacity of the soil available for plants

Step 3 - Take a small handful of soil

To fit comfortably in the palm of your hand.

Step 4 - Add water to the sample

Add enough water to make a golf ball size ball in your hand

Knead (press and massage) the ball for 1–2 minutes, adding more water or soil until it just stops sticking to your fingers.
Note how the soil feels when kneading it: gritty (sandy), silky (silty) or plastic/sticky (clay). If you can't make a bolus, the soil is very sandy.

Step 5 - Form a soil ribbon

Gently press out the soil between your thumb and index finger to form a hanging ribbon. The ribbon should only be 2–3mm thick. The more clay you have in your soil, the longer your ribbon will be (Figures 2 and 3).

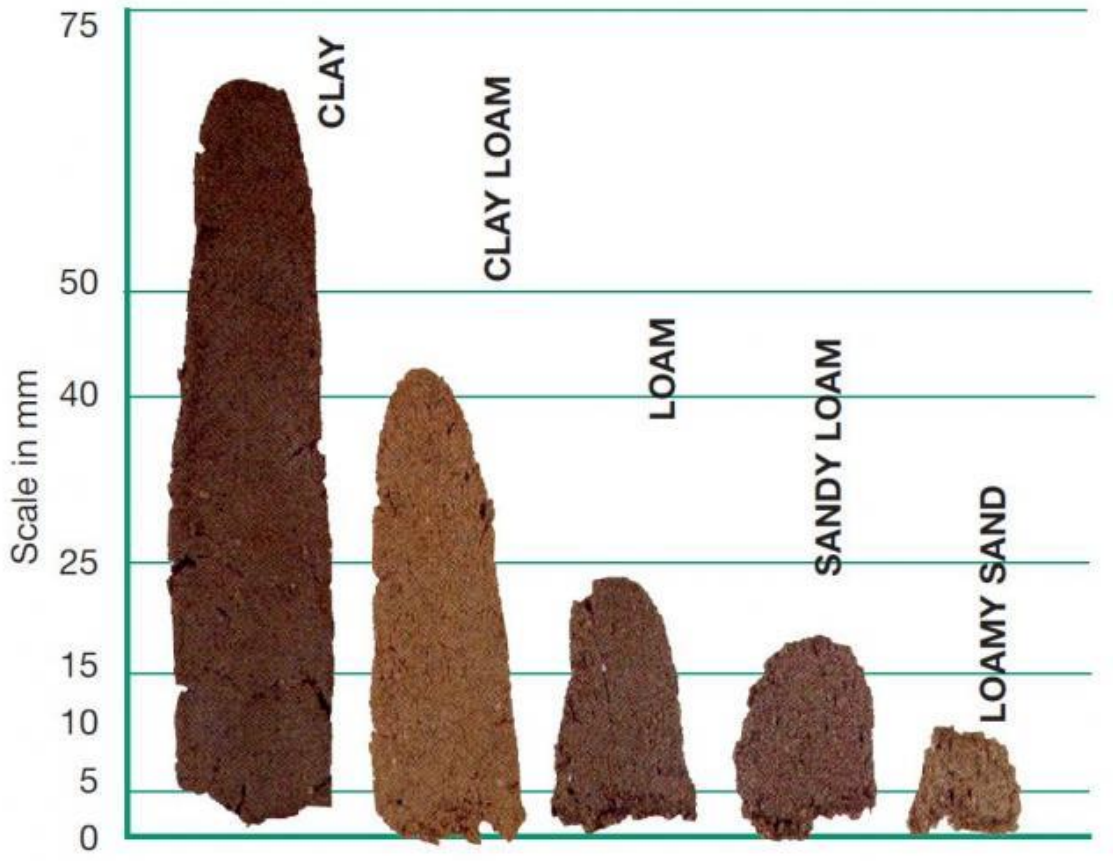

Figure 3 Hand extruded soil ribbons to demonstrate texture

Use information in Table 1 to more accurately identify your soil's texture.
Field texturing is not as accurate as laboratory testing for particle size: field textures are influenced by organic matter, different clay minerals, the sodality (i.e. the proportion of sodium on the cation exchange sites of the clay) and the amount of calcium carbonate (lime) present.