

Aim: How do soil resources form and how are they classified?

A. SOIL FORMATION

Soil: The weathered fragments of rocks & minerals (sediments), and decomposing organic material (humus).

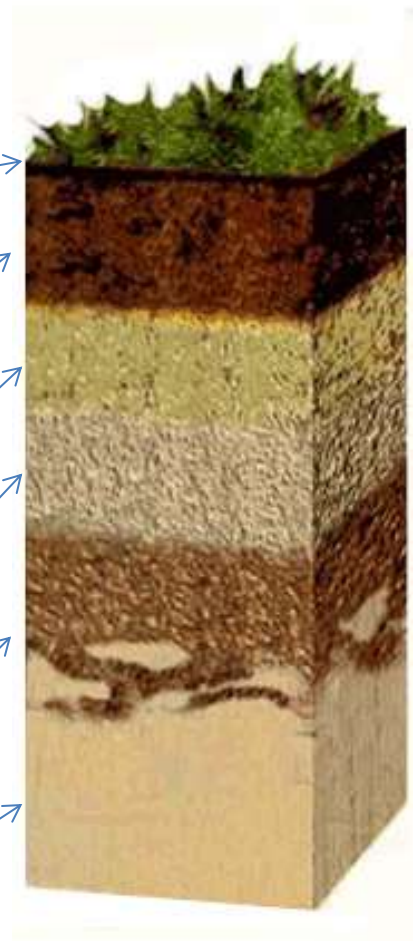
Steps in Soil Formation:

1. parent material (solid rock)
2. weathering (physical and chemical processes)
3. lichens / mosses / fungi
4. organic matter produced from death and decay (humus)
5. higher plant life and soil organisms

1 inch of soil takes 150 years to form and it can take 500-1000's of years to develop a full soil profile

B. SOIL PROFILE INDICATING SOIL HORIZONS

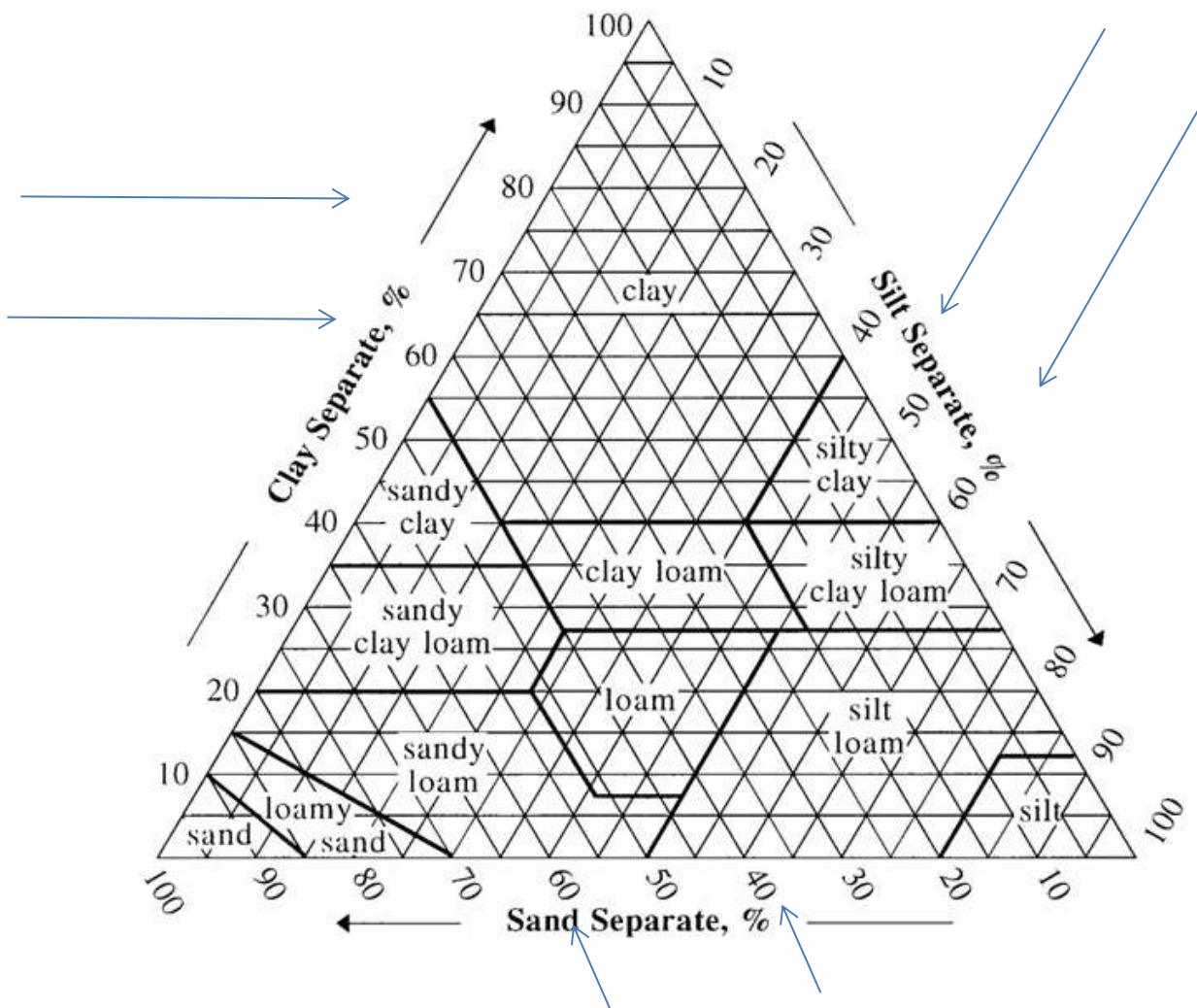
O-horizon	organic freshly fallen, partly decomposed - surface "leaf-litter" animal waste, fungi
A-horizon	dark topsoil layer humus (organic material) & mineral (inorganic nutrients) roots present
E-horizon	zone of leaching → percolating water brings minerals downward
B-horizon	subsoil layer a.k.a. zone of accumulation clay/nutrient/mineral-rich little organic material
C-horizon	regolith - weathered parent material no organic matter
Bedrock	parent material - solid rock main determiner of chemical content of soil



C. SOIL TEXTURE

1. sand (fine to coarse) (.05 → 2mm)
2. silt (.002 → .05mm)
3. clay (less than .002mm)
4. loam (mixture of all) – ideal for agriculture

USDA SOIL TEXTURE TRIANGLE (indicates 12 soil texture classes)



SAMPLE	% Sand	% Silt	% Clay	Soil Texture Class
1	20	30	50	clay
2	50	10	40	sandy clay
3	70	20	10	sandy loam
4	42	21	37	clay loam
5	27	52	21	silt loam
6	5	70	25	silt loam