

Soil Structure

Formation

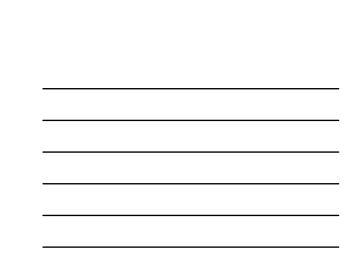
Physio-chemical Processes (inorganic)

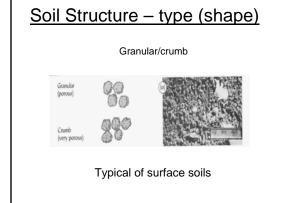
- Iron and clays

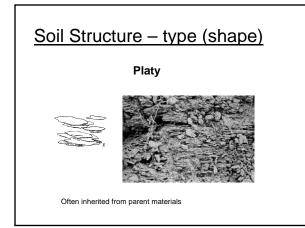
Biological Activities (organic)

- -macro-organisms (burrowing, tunneling, wastes)
- -roots (compression, fibers, exudates)
- -microorganisms (carbon, acids, exudates)

<u>Soil Struc</u>	<u>cture</u> Classificatio	<u>on</u>	
strength grade Strong Moderate weak	Size class Fine Medium Coarse V. coarse	Shape type Spheroidal Platy Block-like Prism-like	

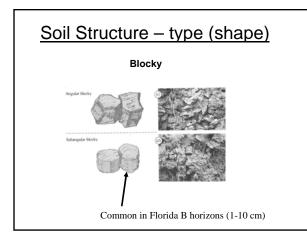


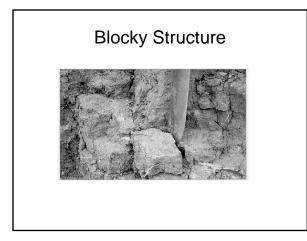


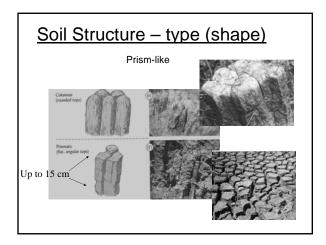




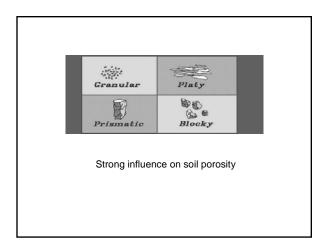




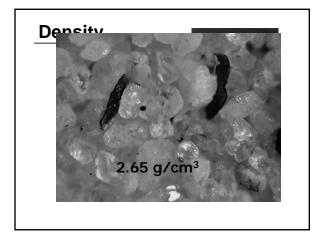




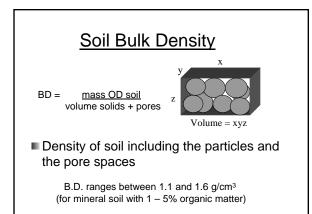


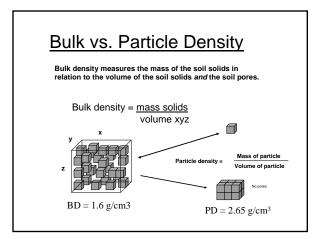


Soil Density











Factors Affecting Bulk Density

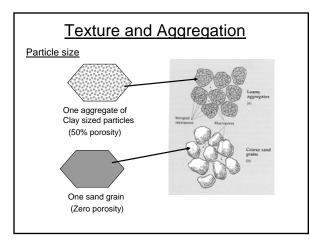
Porosity (pores are weightless)

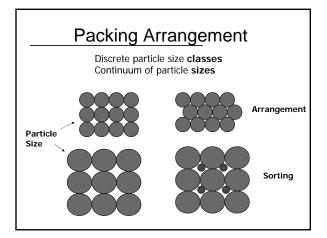
- organic matter
- texture / aggregation
- arrangement of particles
- compaction
- depth in profile

Factors Affecting Bulk Density

Organic Matter

Typical Mineral Soil:	1-5% organic matter	
	bulk density = 1.1 –1.6 g/cm ³	
Organic Soils:	> 20% organic matter	
	bulk density = 0.1 – 0.6 g/cm ³	







Depth in Profile

Lower organic matter Fewer roots => Higher bulk density More compaction



