10-13-15

Soil notes cont.

gravity

Transported parent material can be glacial, aeolian, colluvial, alluvial

1. Glacial – rocks, boulders, pebbles, sand, silt, clay (all can be transported through the action of glaciers). moves like a steam shovel, pushing everything in front of it, as glaciers melted they left these materials. Outwash – when they melted the snow and ice, caused materials to be transported like a flood. These areas are compact, soils are compressed. This is not good for crops. It is good for pasteurland (grasses, straws and hay)
2. Aeolian or Loess soils – soils deposited by the wind. Great for row crops (corn, tomatoes, cauliflower, etc.)Not prevalent in PA. Some of the richest soils in the world are in the Great Plains.
3. Colluviam – soils that has tumbled down from above. Soil moved short distances, usually from a mountain. Earthquakes can cause. Produces fragipans (a dense material, a natural subsurface layer of soil relatively impermeable to water, mostly because of its extreme density or compactness). This soil is moist or wet most of the time. This is where you get lakes and ponds. You can’t use for agriculture or to build on, the basement would flood. Fragipan layers could be a couple of inches to many feet in depth.
4. Alluvial – carried by flowing water. usually done by floods.

Soil properties

Texture – how it feels. determined by the particle size. largest particles have more space in between them, smaller particles have less space. determines how readily air and water can pass through. Plants are very sensitive to texture. Air is important for roots to go through respiration. Ideal soil contains the following: 45% minerals (materials for growth), 5% organic (materials for growth), 25% water, and 25% air.

Course fragments – materials larger than 2mm

Fine earth particles – less than 2mm (used for growing vegetables)

1. sand 2mm to 0.05mm