

Presentation Notes

Presentation Into the Depths Lesson 4.2

Notes from Presentation:

Soil Layers

Soil typically forms over time in distinct layers called horizons

Horizons vary depending upon the make up of: particle sizes, particle arrangement, color, parent material, drainage, organic matter content

Vertical section of soil consisting of soil horizons

O- organic

A- Topsoil

B- Subsoil

C- Parent material

R- bedrock

Horizons:

Organic (O)- litter layer, comprised of whole or partially decayed organic matter

Topsoil (A)- dark in color, comprised of decayed organic matter and aged mineral matter, best environment for root growth

Subsoil (B)- lighter color, mostly mineral matter, little organic matter, tend to be high in clay

Parent material (C)- Parent material, soft, weathered bedrock

Bedrock (R)- un-weathered

Soil color:

Influenced greatly by organic matter and iron

Dark colors indicate high levels of humus, typically fertile soils

Gray indicates wetness or no organic matter

Brown and red indicate presence of iron, typically are well-aerated

Soil structure: When soil particles cling together in an arrangement known as a ped, the shape of a the ped is called structure

Two considerations must be made for soil structure:

Type: The shape of the ped formed is called structure type

Granular- roughly spherical like grape nuts, usually 1-10 mm in diameter most common in A horizons

Platy- Flat peds that lie horizontally in the soil

Blocky- roughly cube-shaped, with more or less flat surfaces. Blocky structures are typical of B horizons

Prismatic- larger, vertically elongated blocks, often with five sides

Structureless Types

Massive- compact, coherent soil not separated into peds of any kind

Single grain- in very sandy soils, every grain acts independently

Grade: How distinct the shape of the ped is and How well the ped holds the shape

Four grades define soil: Strong, Moderate, weak, structureless

Effects of structure

Good structure, or strong means good aeration because of ample pore space

Organic matter is important for forming soil structure- increases porosity and contributes to water holding capacity.

Effective depth: Relative to structure is a soil evaluation category called effective depth.

Effective depth is the zone in which plant roots can easily grow.

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List five key points that are important to remember from this presentation.

1. 5 Horizons in soil
2. 4 grades of soil
3. 7 types of soil
4. Soil color is influenced by what it is made of
5. Organic matter makes-up good soil

List three ideas or concepts that this new information has in common with previous things learned.

1. Air is important for plant growth
2. Soil is made of many materials
3. Soil can be too compacted

List questions or ideas that remain unclear about the information presented that should be asked for clarity at the appropriate time.

None