

1. Soils

Soils

Weathering of rocks



Roots from redwood trees have entered cracks in bedrock in search for nutrients and water

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2. Soil water

Soil water

•How is a sponge similar to soils? Dr. Clay Robinson, Associate Professor, Plant, Soil and Environmental Science, Division of Agriculture, Western Texas A & M University shows us how it is so.

•The link below provides easy to understand explanation about soil – water relationships and short videos in which Dr. Robinson demonstrates the soil water relationships using a sponge:

<http://www.wtamu.edu/~crobinson/sponge/watholding.html>

In the public domain.

3. Soil horizons

Soil Horizons



In the public domain.

4. Soil texture

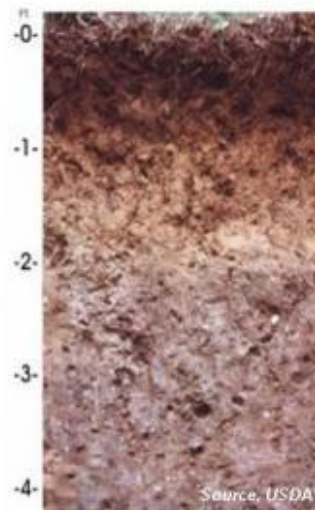
Soil Texture



Soils with a high clay content



Silt loams of Idaho



Sandy loams of Massachusetts

In the public domain.

5. Identifying the texture by feeling the soil

Identifying the texture by feeling the soil

•Dr. Terry Cooper, Professor of Soils and Environmental Science at the Department of Soil, Water and Climate, University of Minnesota shows us how in his web laboratory units

Dr. Cooper's 'Texture by Feel' slides:

<http://www.soils.agri.umn.edu/academics/classes/soil2125/doc/6ch2txt.htm>

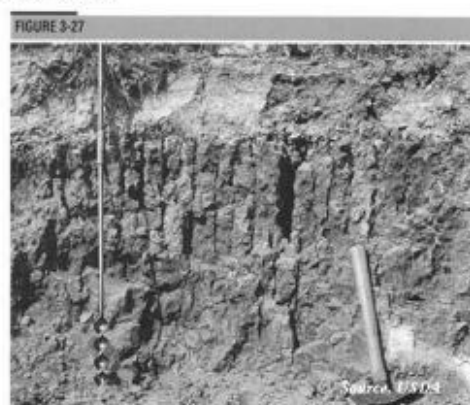
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6. Soil structure

Soil structure



Strong thin platy structure.



Strong medium prismatic structure. The prisms are 35 to 45 mm across.

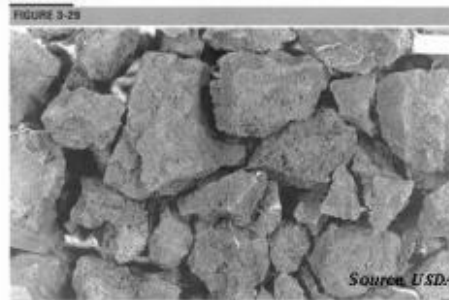
In the public domain.

7. Soil structure

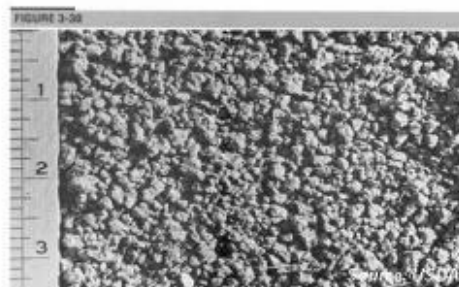
Soil structure



A cluster of strong medium columnar peds. The cluster is about 133 mm across.



Strong medium and coarse blocky peds.



Strong fine and medium granular peds.

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8. Type of root system

Type of root system an influence on nutrient uptake by plants



Tap root of cotton



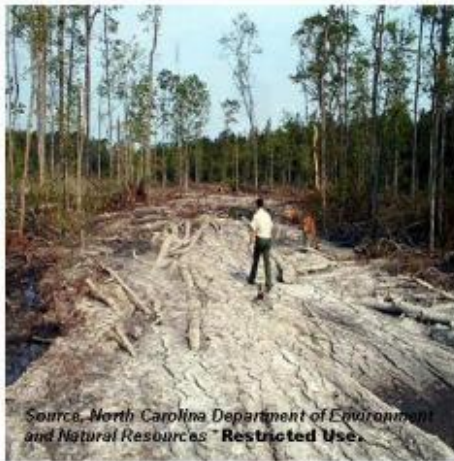
Fibrous roots

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9. Soil related constraints that impede agriculture

Soil related constraints that impede agriculture

Physical constraint



Soil compaction damage



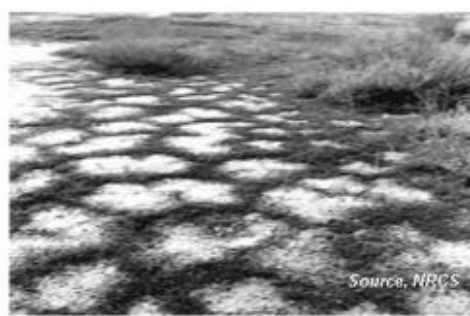
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10. Chemical constraint – unsuitable pH

Chemical constraint – unsuitable pH



Saline sodic soils.



Saline sodic soils.



Acidic soils.



Saline soils.

In the public domain.

11.

References

References

- Pamela Gore - <http://gpc.edu/~pgore/myphotos/appalach/talus.gif>
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- NRCS - <http://www.ca.nrcs.usda.gov/mlra02/stacruz/document/formsoils.html>
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