READING GUIDE*

Soil as a Natural Body I: Parent Materials

see Buol et al. (2011), Chapter 3, p. 89-102

OBJECTIVE: *To understand the different types of soil parent materials and to recognize the influence of parent materials on soil development, soil properties, and soil management.*

1. What is a (terrestrial) *ecosystem*? **How does soil fit within this concept?**
2. What is a *state factor*? What is a *flux*? What is the difference between a *site factor* and an *influx factor*? What five factors did Hans Jenny specify to describe the relationship between a soil (or a soil property) and the soil forming environment?
3. **What is the difference between *felsic*, *mafic*, and *ultramafic* rocks?** Give examples of each. Which type of rock is most easily weathered?
4. How does grain size influence weathering rates?
5. Among siliceous crystalline rocks, how do rock properties influence soil properties? Provide specific examples.
6. What are definitions of the various materials associated with glacial deposits (*till*, *loess*, *outwash*, etc.)? How do the properties of various glacial deposits influence soil properties? Provide specific examples.
7. What is a *coastal plain*? What are the origins of coastal plain sediments? What are common characteristics of coastal plain soils? Provide specific examples.
8. For soils associated with limestone or dolomite, from what materials did the soil form? What are common characteristics of limestone soils? Provide specific examples.
9. How do the properties of sandstone-derived soils differ from the properties of shale-derived soils? Provide specific examples.
10. What is a lithosequence? **How can lithosequences be used to study soil genesis?**

SYNTHESIS:

11. Where should each of the following parent materials be found in West Virginia: residuum, colluvium, alluvium, lacustrine deposits, organic deposits? Explain your answer.
12. In terms of land use, what are the pros and cons of using or developing alluvial soils? Lacustrine deposits? Organic deposits?

* *Questions in plain type represent basic facts and concepts. Questions in **bold** type are those that are answered in the text but require more careful consideration. The Synthesis questions at the end help you apply the facts and concepts to a relevant issue.*