

READING GUIDE*

Soils and Landscapes

see Buol et al. (2011), Chapter 20, p. 397-409

OBJECTIVE: *To understand the nature of soil variability at the landscape scale, and to know how soil survey maps are used to characterize and communicate our knowledge of soil-landscape relationships.*

1. Explain the differences between and the relationships among: (i) a *pedon*, (ii) a *soil individual*, or *polypedon*, (iii) a *soilscape*, and (iv) the *soil cover pattern*. Be specific.
2. Explain the difference between and the relationships among (i) *soil taxonomic units* and (ii) *soil map units*. Be specific.
3. What is a *consociation*? May soils other than the named series and phase exist within a consociation? What is the general composition of a consociation relative to the named series and phase and included soils?
4. **What is an *inclusion*? Why do inclusions exist within map unit delineations? What is the significance of *similar vs. dissimilar* inclusions? *Limiting vs. nonlimiting* inclusions?**
5. When is a *complex* used on a soil map? How is an *association* different from a soil complex?
6. What is an *undifferentiated group*? When is an undifferentiated group used on a soil map?
7. Why are some soil surveys made to include greater detail and more precise information, while others are more generalized?
8. How do methods differ when developing soil surveys of higher (first and second) or lower (third, fourth, and fifth) order?
9. How are *graphic generalization*, *taxonomic generalization*, *spatial generalization*, and *sampling generalization* approaches used to develop generalized soil maps from more detailed soil maps? Be specific.
10. What are the typical uses of each of the five orders of soil surveys?
11. What are the minimum sizes for soil map unit delineations on each of the five orders of soil surveys?
12. How do the kind and components of map units change among the five orders of soil surveys?
13. What is the typical map scale used for field mapping and publication of each of the five orders of soil surveys?
14. What are some typical uses of each of the five orders of soil survey?

SYNTHESIS:

15. Why is it important to know about inclusions within a map unit delineation?
16. How does the level of uncertainty associated with a map unit change as a soil map becomes more generalized? How do the number and type of inclusions change? How does this influence the ability of the soil map to communicate information about soils and landscapes?

* 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.