

## READING GUIDE\*

### Subsurface Diagnostic Horizons

see Buol et al. (2011), Chapter 2, p. 57-62

**OBJECTIVE:** To understand the various diagnostic soil materials identified within Soil Taxonomy, and recognize the different subsurface diagnostic horizons that may be present and the criteria on which they are defined.

1. What is a *subsurface diagnostic horizon*? What horizons may be included in a subsurface diagnostic horizon?
2. What is an *albic horizon*? What soil horizon designation is associated with an albic horizon?
3. What is an *argillic horizon*? What specific criteria are used to define the argillic horizon? What soil horizon designation is associated with an argillic horizon?
4. What is a *cambic horizon*? What soil horizon designation is associated with a cambic horizon?
5. What is a *fragipan*? What specific criteria are used to define the fragipan? What soil horizon designation is associated with a fragipan?
6. What is a *kandic horizon*? How does it differ from the argillic horizon?
7. What is *ortstein*? What soil horizon designation is associated with ortstein?
8. What is a *spodic horizon*? What specific criteria are used to define the spodic horizon? What soil horizon designations are associated with a spodic horizon?
9. How is *abrupt textural change* defined?
10. What is the *coefficient of linear extensibility* (COLE)? How does it differ from *linear extensibility*?
11. How do *fragile soil properties* differ from a fragipan?
12. What are *lamellae*?
13. What is a *lithologic discontinuity*? How is the presence of a discontinuity most commonly identified when describing a soil profile?
14. How do *resistant minerals* differ from *weatherable minerals*?
15. What is a *diagnostic contact*? How does a *lithic contact* differ from a *paralithic contact*?

**SYNTHESIS:**

16. In what environments in West Virginia might each of the following subsurface diagnostic horizons or diagnostic soil characteristics be found: albic horizon, cambic horizon, lithologic discontinuity, lithic contact? Explain your answer.

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\* 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.