

## READING GUIDE\*

### Spodosols

see Buol et al. (2011), Chapter 17, p. 361-373

**OBJECTIVE:** *To understand the nature and properties of soils classified as Spodosols, to know the potential uses and limitations of these soils, and to recognize the taxa associated with Spodosols in Soil Taxonomy.*

1. What is the central concept for soils classified as Spodosols?
2. In what soil forming environments are Spodosols most commonly found?
3. Explain why Spodosols are found in each of the following settings. Be sure to specify the pedogenic processes that occur (or do not occur) to promote the occurrence of Spodosols. (a) humid boreal climates, (b) coarse-textured parent materials, (c) evergreen needleleaf forests.
4. **What are the diagnostic properties of a spodic horizon?**
5. What is *ortstein*? What is a *placic horizon*? How does the presence of either of these horizons influence soil properties and processes?
6. What is *podzolization*? Be specific. What factors and processes promote podzolization? Explain the role of organometallic complexes in the podzolization process.
7. **How do microorganisms and microbial processes influence podzolization and the development of spodic horizons?**
8. What properties may be associated with Spodosols?
9. What types of land use problems may be associated with soils classified as Spodosols? Explain why land use practices may be limited. Be specific.
10. What land use practices are commonly supported by soils classified as Spodosols?
11. Which diagnostic horizons may be found in soils classified as Spodosols?
12. What suborders are identified for soils classified as Spodosols? What are the diagnostic properties of each?
13. What properties are used to distinguish the great groups of soils classified as Spodosols?

**SYNTHESIS:**

14. Where in West Virginia are soils classified as Spodosols likely to be found? What are the suitabilities and limitations of these soils for various land uses?

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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.