

READING GUIDE*

Histosols

see Buol et al. (2011), Chapter 13, p. 307-320

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

1. What is the central concept for soils classified as Histosols?
2. What percentage of the land area of the planet is occupied by Histosols?
3. In what soil forming environments are Histosols most commonly found?
4. Explain why Histosols 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 Histosols. (a) high latitudes, (b) tropical lowlands, (c) coastal plains, (d) high elevations, (e) broad floodplains, (f) depressions.
5. Why are many Histosols found in areas where the soil is saturated and anaerobic for most of the year? Explain your answer.
6. What is the difference between a *fen* and a *bog*?
7. What is *paludization* (or *paludification*)? What is *terrestrialization*?
8. What factors control the decomposition of organic matter?
9. What is *ripening*? Explain the difference between physical ripening, chemical ripening, and biological ripening.
10. What properties may be associated with Histosols? **How does the degree of organic matter decomposition influence these properties?**
11. What types of land use problems may be associated with soils classified as Histosols? Explain why land use practices may be limited. Be specific.
12. What land use practices are commonly supported by soils classified as Histosols?
13. What two processes contribute to the subsidence of Histosols following drainage? What other hazards become of concern following drainage of Histosols?
14. What ecological or environmental functions do areas of Histosols perform?
15. How is the description of organic soil materials different than that for describing mineral soil materials? Provide specific examples.
16. Define and describe each of the following soil materials: fibric, hemic, sapric, hemilluvic, limnic, coprogenous earth, diatomaceous earth, marl.
17. Which diagnostic properties are used to distinguish among taxa of Histosols?
18. What suborders are identified for soils classified as Histosols? What are the diagnostic properties of each?
19. What properties are used to distinguish the great groups of soils classified as Histosols?

SYNTHESIS:

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

* 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.