

2026 Area 5 Envirothon Soils Test – ROCKY FORK LAKE

1. Soil texture is defined as the relative proportions of sand, silt, and clay. How many USDA texture classes exist?
 - A. 8
 - B. 10
 - C. 12
 - D. 14

2. Aquatic life and water resources can be negatively impacted due to increased amounts of sediment, fertilizer, herbicides, and pesticides entering waterways from soil erosion and runoff. Which of the following statements best describes measures taken to reduce soil erosion and runoff in agriculture?
 - A. Cover Crops, Grassed Waterways, Fall Tillage
 - B. Controlled Traffic, Conventional Tillage, Cover Crops
 - C. Terraces, Filter Strip, Controlled Traffic
 - D. Grassed Waterways, Cover Crops, Filter Strip

3. Soil redoximorphic features are color patterns occurring from the oxidation, reduction and translocation of iron and manganese. What soil feature below is indicated by soil redoximorphic features?
 - A. Glacial Till
 - B. Bedrock
 - C. Water Table
 - D. Lithochromic Mottles

4. Soil is formed from factors that determine the unique characteristics and overall development of soil. How many factors are involved in soil formation?
 - A. 3
 - B. 4
 - C. 5
 - D. 6

5. Bedrock geology influences or determines many of the soil properties that occur in soils in the unglaciated portion of Ohio. Which of the following terms best describe soil that forms from bedrock parent material?
 - A. Residuum
 - B. Lacustrine
 - C. Colluvium
 - D. Alluvium

6. Southern Ohio has some soils that are prone to shrink-swell. These soils shrink when dry and swell when wet. This shrinking and swelling can damage building foundations, roads, other structures, and even plant roots. Which of the following statements best describe soils that are most likely to shrink and swell?
- A. Soils with high fine sand content
 - B. Soils with high clay content**
 - C. Soils with high organic matter content
 - D. Soils with high silt content
7. Soil structure is the arrangement of primary soil particles into aggregates. Soil structure has a major impact on air and water movement in soils. Structure influences the rate at which water and air infiltrate the soil. What soil structure below allows for the most rapid movement of water and air into the soil?
- A. Angular Blocky
 - B. Subangular Blocky
 - C. Platy
 - D. Granular**
8. This soil feature is a loamy, brittle subsurface horizon low in porosity and organic matter content and low or moderate in clay but high in silt or very fine sand that appears cemented and restricts root and water movement. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above and when moist, tends to rupture suddenly under pressure rather than deform slowly. What is this soil feature?
- A. Claypan
 - B. Fragipan**
 - C. Hardpan
 - D. Plowpan
9. What type of soil map unit is defined as having two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps and due to land use, it was not considered practical or necessary to map the soils or miscellaneous areas separately?
- A. Association**
 - B. Complex
 - C. Consociation
 - D. Undifferentiated group

10. What is the texture of the surface layer in bucket #1?
- A. Sandy loam
 - B. Loam
 - C. Silt loam
 - D. Silty clay loam
11. What is the texture of the subsoil in bucket #2?
- A. Sandy clay loam
 - B. Clay loam
 - C. Silty clay loam
 - D. Loam
12. What is the structure of the soil in the pit between 0 to 2 inches?
- A. Platy
 - B. Blocky
 - C. Granular
 - D. Single-grained
13. What is the structure of the soil in the pit between 20 to 24 inches?
- A. Platy
 - B. Prismatic
 - C. Granular
 - D. Blocky
14. What is the depth of topsoil in the pit?
- A. 0 – 4 inches
 - B. 4 – 8 inches
 - C. 8 – 12 inches
 - D. 12+ inches
15. What is the water table depth in the soil pit?
- A. 0 – 8 inches
 - B. 8 – 16 inches
 - C. 16 – 40 inches
 - D. >40 inches or below the bottom of the pit
16. What is the depth to a root restrictive feature in the pit?
- A. 0 – 10 inches
 - B. 10 – 20 inches
 - C. 20 – 40 inches
 - D. >40 inches or below the bottom of the pit

17. What landform is the soil located on?
- A. Floodplain
 - B. Terrace Tread
 - C. Upland Flat
 - D. Lake Plain
18. Topsoil is used to cover an area so that vegetation can be established and maintained. Which of the following soil map units could be used as a potential source of topsoil?
- A. Ag
 - B. HbA
 - C. OwB
 - D. WvB
19. Linear extensibility (LE) refers to the change in length of an unconfined soil clod as moisture content is decreased from a moist state to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. Which of the following soils would be expected to have the least amount of shrink swell?
- A. Negley
 - B. Otwell
 - C. Gasconade
 - D. Montgomery
20. The Ohio Productivity Index (PI) ratings provide a relative ranking of soils based on their potential for intensive row crop production. Ratings range from 0 to 100 with higher numbers indicating higher production potential. Which of the following soil map units has the highest PI index rating?
- A. Ag
 - B. FcA
 - C. My
 - D. Pa
21. Septic tank absorption fields can be a potential non-point source of pollution for homeowners in areas without centralized sewer systems. Which of the following soil map units would be best suited for a septic tank absorption field?
- A. MgB
 - B. NeB
 - C. OwB
 - D. WvB

22. Surface Runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate and vegetative cover assuming the soil surface is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. What is the surface runoff class for the OwB soil map unit?
- A. Low
 - B. Medium
 - C. High
 - D. Very High
23. Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. Saturated hydraulic conductivity is considered in the design of soil drainage systems and septic tank absorption fields. Which of the following soils has the lowest Ksat value in the surface?
- A. Dubois
 - B. Fitchville
 - C. Gasconade
 - D. Negley
24. Negley silt loam, 2 to 6 percent slopes (NeB) are rated very limited for pond reservoir areas. What is the main limitation why Negley silt loam, 2 to 6 percent slopes are so poorly rated?
- A. Seepage
 - B. Slope
 - C. Depth to bedrock
 - D. Depth to water table
25. Every soil map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils or components. Which of the following is not a minor component in the Haubstadt silt loam, 6 to 12 percent slopes, moderately eroded (HbC2) map unit?
- A. Slightly eroded areas
 - B. Otwell
 - C. Negley
 - D. Sardinia