

April 29, 2014

Area IV Envirothon  
Procter Camp and Conference Center  
11235 S. R. 38 SE  
London, Ohio 43140

## Forestry

- 1. What is the forestry term used to describe trees that will never produce quality timber, due to their form, species and current health?**
  - a. Snag
  - b. Cull
  - c. Hitch
  - d. Wolf
  
- 2. Foresters need to know the diameter of a tree and the height in order to estimate the volume that is in the tree. One of the tools used to measure diameter is called a Biltmore stick. In order to achieve an accurate, consistent measurement the tree is measured at a point on the trunk called diameter breast height. Where is that point on a tree?**
  - a. 3.25 feet off the ground
  - b. 4.25 feet off the ground
  - c. 4.5 feet off the ground
  - d. 5.5 feet off the ground
  
- 3. Prior to settlement, Ohio was primarily forested habitat. As settlers cleared much of the forest, the result was a plethora of agricultural fields surrounded with grassy/brushy edges and grassy openings for grazing livestock. Following this change in habitat type, several species moved into Ohio that were not present in the state prior. Which of the following species was considered “not-native” to Ohio prior to European settlement and this drastic change in the landscape?**
  - a. coyote
  - b. bobwhite quail
  - c. barn owl
  - d. all of the above
  
- 4. Utilizing a Biltmore stick measure the diameter of tree #1. What is its’ diameter?**
  - a. 12 inches
  - b. 16 inches
  - c. 18 inches
  - d. 20 inches
  
- 5. Tree #1 is a tree commonly found in Ohio’s forests. It’s wood is often used for tool handles. Identify tree #1.**
  - a. Hickory
  - b. Mulberry
  - c. Ash
  - d. Elm

6. **The leaf of tree #2 is best described by which of the following terms?**
- Palmately compound
  - Pinnately compaound
  - Simple
  - Twice pinnately compound
7. **Tree #2 provides significant forage for native bees important to sustainable agriculture. It also can be used to provide a food crop that is harvested in the state of Ohio. Identify tree #2.**
- Kentucky coffeetree
  - Black cherry
  - Red mulberry
  - Sugar maple
8. **Many of Ohio's forests are being changed by non-native insects and plants that are moving across the state. These changes have the ability to greatly reduce the species diversity of forest stands such as this one. Which of the following non-native invasive species could eliminate tree #2 from this stand?**
- Asian longhorned beetle
  - Emerald ash borer
  - Viburnum leaf beetle
  - Gypsy moth
9. **Bees are such an effective pollinator in comparison to other types of pollinators because \_\_\_\_\_?**
- Their yellow and black coloring helps hide them from predators
  - They typically visit flowers from a single plant species during each forage trip
  - The numerous hairs on their legs picks up more pollen than other insect species
  - They can tolerate pesticides better than other pollinator species
10. **The plant labeled #3 is a common shrub found in many Ohio forests. It provides a small red berry that wildlife can and do forage on. Which of the following statements is true about plant #3?**
- This plant is highly desirable when managing for diverse wildlife habitat.
  - This plant is an indicator species denoting a healthy forest ecosystem.
  - This plant is a rare and threatened species due to human development across the state.
  - This plant is a non-native invasive species once popular for use in landscaping.
11. **Identify plant #3?**
- Autumn olive
  - Mapleleaf viburnum
  - Redosier dogwood
  - Bush honeysuckle

- 12. This shade tolerant, upland tree species is increasing in dominance throughout many upland forests that have had repeated selective harvests over many years; it is considered to be one of the climax species for upland forests in this part of Ohio.**
- Sugar maple
  - Red elm
  - American beech
  - White oak
- 13. A diverse forest stand has the capability of yielding a wide variety of forest products besides timber. Identify the product most likely to be produced from this woodland.**
- Witch hazel bark
  - Firewood
  - Dogwood floral stems
  - Maple syrup
- 14. Tree #4 is not commonly found in Ohio's forests but is a medium size tree found in more open woodlands. It produces a fruit that is known as a legume which puts this species in the Leguminosae family for plants. What type of leaf will this tree have?**
- Compound
  - Pinnately compound
  - Twice-pinnately compound
  - Palmately compound
- 15. Which of the following will increase the dissolved oxygen in this pond on a sunny day in May?**
- Willow trees growing in the shallows
  - Phytoplankton (algae)
  - Zooplankton
  - Aquatic Insects
- 16. Tree #4 produces a fruit that is edible. Which of the following products can be made from the fruit of this tree?**
- Syrup
  - Coffee
  - Whiskey
  - Tea
- 17. Identify tree #4.**
- Green ash
  - Kentucky coffeetree
  - Honey locust
  - Black locust

- 18. Ohio's forestland has a variety of owners with the majority of it being privately owned. Approximately what percentage of Ohio's 8.1 million acres of forestland is privately owned?**
- 50%
  - 75%
  - 86%
  - 97%
- 19. There are several soil types mapped for the land that the Proctor Center occupies. The wooded area sits mainly on a Miamian-Eldean silt loam. This soil is classified as well drained with no frequency for flooding or ponding. Which of the following tree species would naturally grow in soils with these characteristics?**
- Swamp white oak, bur oak, shagbark hickory
  - Shellbark hickory, green ash, sugar maple
  - Sugar maple, white oak, white ash
  - White oak, shagbark hickory, American elm
- 20. This woodland at the Proctor Center has lost many large trees from this wooded area in the last year or two. What non-native invasive insect killed these trees and has been working its way across the state of Ohio?**
- Viburnum leaf beetle
  - Asian longhorned beetle
  - Hemlock woolly adelgid
  - Emerald ash borer
- 21. Towards the northern edge of the wooded area, the soils are mapped as Crosby silt loam. When it comes to how well these soils drain Crosby silt loam is listed as somewhat poorly drained. This distinction restricts which woodland trees are going to thrive in these soils. Which of the following species are best suited to growing on a Crosby silt loam?**
- Swamp white oak, bur oak, chestnut oak
  - Shellbark hickory, green ash, silver maple
  - Sugar maple, white oak, white ash
  - White oak, shagbark hickory, American elm
- 22. Which of the following is a good way to utilize native plants:**
- create a bird and butterfly garden to protect biodiversity
  - establish a prairie patch and reduce the time and energy you spend mowing
  - attract pollinators to your vegetable plantings
  - replace aggressive or invasive species
  - all of the above

- 23. Using a log scale stick, determine the volume of wood in board feet for a log that is 18 inches in diameter at the small end, and is 32 feet long.**
- a. 338 bd ft
  - b. 392 bd ft
  - c. 432 bd ft
  - d. 882 bd ft
- 24. Tree #5 is considered to also be a highly valuable timber tree. This tree prefers growing in moist but well drained soils and requires almost full sunlight in order to thrive. It is also an excellent mast tree for wildlife. Identify tree #5**
- a. Hickory
  - b. Black walnut
  - c. Mulberry
  - d. Cherry
- 25. Soil texture refers to the relative proportions of three particle sizes. Which of the following is NOT used in the definition of texture?**
- a. Sand
  - b. Loam
  - c. Clay
  - d. Silt