

2021 Forestry Study Materials

The study references listed are not an exhaustive list of sources from which test questions are drawn. Students are expected to research other sources for more information according to the learning objectives.

The 2020 Area IV Envirothon Committee has decided to utilize the most up to date soil survey information, and by doing so will NOT be supplying each school with a copy of the Darke County Soil Survey. Starting around 2002, the National Cooperative Soil Survey decided that the booklet format soil survey was no longer a practical way to deliver soil survey information in a timely manner. Instead, soil surveys are now updated every year (in some way), and are provided in digital formats throughout the nation. Each school should utilize the websites listed below to obtain the information that will be part of this year's contest. The Web Soil Survey contains the most up to date soils information, and in utilizing this site, students will become accustomed to today's soil survey. A Custom Soil Resource Report, from web soil survey, of the 2020 Envirothon site will be supplied at the soil station for students to use.

The following list of topics is a summary of key terms, soil interpretive tables, narrative sections and soil map unit and series descriptions from the Soil Survey of Darke County which participants in the 2020 Envirothon Competition should concentrate their study time to prepare for the soils questions on the test.

Soil Survey Maps and interpretations

<http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>

If you experience any issues with the web soil survey, please check and make sure that you have turned off your browser's pop-up blocker.

Today's soil survey maps are delivered through Web Soil Survey. In Web Soil Survey, students should be familiar in navigating to a location via the quick navigation tool. To access the 2020 Area 4 Envirothon location, use the address tool and navigate to

440 Greenville Nashville Rd. Greenville, Ohio 45331.

This should take you to the Light Foundation, Chenoweth Trails facility west of Greenville Ohio. Once you have navigated to the location, you will need to set the area of interest (AOI) to obtain soil survey information.

You can navigate to almost any area in the United States by simply using the quick navigation tools, and the soil survey of that area will be available to you. There are multiple search navigation tools available to use. Make sure to utilize the different tools in searching for an area.

After setting the AOI, students should explore the information available under the Soil Map and Soil Data Explorer tabs. Under the Soil Data Explorer tab, students should become especially familiar with the following Suitabilities and Limitations for Use, Soil Properties and Qualities, and Soil Reports:

Data sets under the *Suitabilities and Limitations for Use* tab:

- Land Classification: Hydric Rating
- Building Site Development : Dwellings with Basements (OH)
- Building Site Development :Lawns and Landscaping (OH)
- Sanitary Facilities – Septic System – Mound with Pressure Distribution (OH)
- Waste Management – Manure and Food-Processing Waste (OH)

Data sets under the *Soil Properties and Qualities* tab:

- Soil Physical Properties – Available Water Storage
- Soil Qualities and Features – Depth to Any Soil Restrictive Layer
- Soil Qualities and Features – Hydrologic Soil Group
- Soil Qualities and Features – Parent Material Name
- Water Features – Depth to Water Table

Data Sets under the *Soil Report* tab:

- Soil Reports – Soil Physical Properties – Engineering Properties
- AOI Inventory: Map unit Description
- AOI Inventory: Component Test Descriptions

The following soil map units are helpful to become familiar with:

- Br - Brookston silty clay loam
- CrB - Crosby silt loam
- MmB and MmC2 - Miamian silt loam
- Tr - Treaty silty clay loam
- Wb - Walkkill silt loam

In addition, students should utilize the Shopping Cart (Free) function. This feature creates a customized, printable soil survey report for the area indicated in the AOI in PDF format. The printed packet that will be supplied to students during the test will be created in the Web Soil Survey using the Shopping Cart, so familiarity with this report format will be advantageous. Under the Soil Data Explorer tab, find the Intro to Soils tab. Students should use this resource as an introduction to soils in general, the Web Soils Survey, and this year's contest theme. Recommended sections include:

- Introduction to Soils – Soils 101
- Introduction to Soils – Information for Land Users

For a more detailed explanation on using all of the features provided in Web Soil Survey please refer to the following site: http://websoilsurvey.nrcs.usda.gov/app/Help/WSS_HomePage_HowTo.pdf

Other Resources**Guide to Texture by Feel and Soil Textural Triangle:**

https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/edu/?cid=nrcs142p2_054311

Field Book for Describing Soils:

<https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/ref/>

Then use the "Quick Link" menu for "Field Book for Describing Soils" Then open the pdf version. The following pages will be helpful:

- Soil texture (p. 2-38)
- redoximorphic features (p. 2-12)
- horizons (pp. 2-2 to 2-4)
- Roots (pp. 2-70 to 2-72)
- Pores (pp. 2-73 to 2-76)
- soil structure (pp. 2-52 to 2-54)

Other links on the NRCS web page above which are useful: Become familiar with the soil health/soil health management links; and the soil health/Biology Primer/Photo Galley. Three of those photos which are useful are: Components of Soil Organic Matter (a pie chart), Soil Organisms Living within a Soil Aggregate, Mineralization/Immobilization (of soil nutrients).