USDA United States Department of Agriculture

Natural Resources Conservation Service

Soil and Plant Science Division

Southern Great Plains Region 9

Rosenberg MLRA Soil Survey Office

Fort Bend County Master Gardeners Intern Class of 2019

Purpose

Soils outreach is an integral part of the Rosenberg Office's service to the community, and this class presented to the Master Gardeners is an important part of that organization's overall curriculum. On October 15th, Stacey Kloesel, Kenny Hall, and Jon Wiedenfeld, Rosenberg, Texas, Soil Survey Office, provided soils training to the Fort Bend County Master Gardeners intern class of 2019.

Background

The Master Gardeners are a volunteer group sponsored through the Texas A&M AgriLife Extension Service that promotes conservation and sustainable horticultural practices to county residents. Each year, a class of interns receives training on soil and other subjects in order to become certified Master Gardeners.

"Horticulture is the branch of agriculture that deals with the art, science, technology, and business of growing plants. It includes the cultivation of medicinal plants, fruits, vegetables, nuts, seeds, herbs, sprouts, mushrooms, algae, flowers, seaweeds and non-food crops such as grass and ornamental trees and plants." https://en.wikipedia.org/wiki/Horticulture.

Jon Wiedenfeld, Soil Scientist, Rosenberg, Texas, provided Fort Bend Master Gardeners intern class with soils information.

Key Outcomes

The staff from the Soil Survey Office in Rosenberg, Texas, presented a 3-hour training class on several aspects of soil. The class included a lecture, demonstrations, and hands-on activities. The lecture portion conducted by Jon Wiedenfeld touched on soil formation, soil characteristics, soil health, and the practical application of this information. He emphasized the incorporation and maintenance of soil organic matter and discussed various soil conservation practices to improve overall soil health.

Stacey Kloesel provided one of the hands-on classes. Using a 12-inch slice of topsoil as her pedon model, she described the color, texture, structure, and other observable features. Her demonstration reinforced visually the topics discussed during the lecture. In particular, she showed the class how soil color and structure can be indicators of overall soil health and then explained several techniques to improve soil health. This hands-on approach provided the interns with the chance to see soil through the eyes of a soil scientist.

Kenny Hall's hands-on class started with a demonstration on the use of Web Soil Survey; followed by the purpose and use of a pH meter in soil science; and finally, how a soil scientist determines soil texture and the importance of knowing soil textures for land use management.

Kenny first showed the class the functionality and ease-of-use of Web Soil Survey. He then had a member of the class to go through the steps and to generate a report. The class was impressed with all the soils information they had available to them with just a few clicks of the mouse.

Next, Kenny demonstrated the use of a pH meter to determine soil reaction. This portion was particularly interesting to the students as questions were asked about the importance of soil pH and the availability of nutrients for plants.

Kenny's last exhibition was the use of the hydrometer and sieves for calculating the amount of sand, silt, and clay in a soil, otherwise known as soil texturing. He explained that using this information will help land managers make suitable management decisions.

Stacey Kloesel, Soil Scientist, Rosenberg, Texas, describes soil characteristics to Fort Bend Master Gardeners interns.

Kenny Hall, Soil Scientist, Rosenberg, Texas, shows Fort Bend Master Gardeners interns how to determine soil pH using a hand-held pH meter.

Future Goals

Margo McDowell, Fort Bend County Master Gardeners Program Coordinator, said this soils class really opened the eyes of the interns to the importance of good soil health as it relates to the entire ecological system. She said it was especially important because these people will go out into the community to assist others in gardening projects and this gives them the tools to provide science-based soils information.

An Outreach Program such as this provides NRCS soil scientists the opportunity to share their knowledge through cooperators and other agencies. Thus, ensuring modern science-based soils information is provided to the public.

Kenny demonstrates Web Soil Survey to Fort Bend Master Gardeners interns.