USDA United States Department of Agriculture

Natural Resources Conservation Service

Soil Science Division—Region 9

Southern Great Plains Region

Outreach—A Valuable Tool for Promoting the Benefits of "On The Ground" Soil Science

Purpose

Early in October, Stacey Kloesel, Cody Langston, and Jon Wiedenfeld, soil scientists with the Rosenberg, Texas Soil Survey Office, provided soils training to the Fort Bend County Master Gardeners intern class.

Soils Outreach training programs conducted by soil scientists are held in high regard across Region 9. The information these scientists provide is valuable to everyone, and in this instance, it was geared to the Master Gardner's intern program.

Cody Langston, Soil Scientist, Rosenberg, Texas, demonstrates the use of a hydrometer and sedimentation jar for determining soil texture.

Background Information

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.

"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

Stacey Kloesel, Soil Scientist, Rosenberg, Texas, shows the class how to identify soil features from a sharpshooter slice of soil.

Key Outcomes

To prepare these volunteers, the class goes through a training program of various topics specific to horticultural practices in their area. One such topic is a 3-hour session on soils.

This year the soil survey staff set up several information stations that explained important aspects of soils and soil surveys. Jon Wiedenfeld presented an overview on soil formation, composition, chemistry, and use and management. He reiterated on several occasions the importance of adding and maintaining soil organic matter to ensure healthy soils. Key points from his presentation were reinforced at the stations setup by Langston and Kloesel.

Cody Langston demonstrated some of the technology soil scientists use to quantify soil attributes and the use of Web Soil Survey. He explained how central these are to the science-based soils information provided by the NRCS. He showed the interns how to determine soil texture using a hydrometer, and soil reaction by pH meter. Langston then opened a session in Web Soil Survey and showed the class the various parts of it, with highlighting the tutorial feature. He culminated his talk by generating soil maps and reports on urban as well as farm land areas. The students were very impressed with all the soils information available on Web Soil Survey and even more surprised to see how “user friendly” it is.

Jon Wiedenfeld, Soil Scientist, Rosenberg, Texas, provides Fort Bend Master Gardeners intern class with a slideshow on soil formation and characteristics.

Using a sharpshooter slice of soil, Stacey Kloesel provided the interns a visual and hands-on demonstration of soil features. She described the color, texture, and structure along with other important attributes. She emphasized the importance of these attributes, such as, color being an indicator of natural fertility and how texture is vital to many agricultural and engineering conservation practices. Additionally, she pointed out things to look for in a good, healthy soil. Class participants did not realize how many different types of soil were in the area and asked several questions about how to improve the soils in their gardens.

Future Goals

Following the training session, Margo McDowell, Fort Bend County Master Gardeners Program Coordinator, said she always looks forward to the soils class because healthy soils are so important to a productive horticulture program; and the NRCS staff make the topics interesting and informative by using a variety of activities to keep the students engaged. Feedback from the interns was also positive as they were anxious to implement new conservation management practices as they had a better understanding of soil suitability and soil limitations in their area.

Continuing to participate in Outreach Programs offered through cooperators and other agencies allows soil scientists to share information regarding “on the ground” soil science, ensuring generations now and in the future will have healthy soils, healthy ecosystems, and healthy food and water sources.