

SOIL AND PLANT SCIENCE DIVISION

Technical Soil Services

South Central Soil Survey Region



Ruston, Louisiana and Hot Springs, Arkansas Major Land Resource Areas (MLRA) Soil Survey Office (SSO)

Soil Science Training in Booneville, Arkansas

Purpose

On Wednesday, April 12th, 2023, twenty staff from the Soil and Plant Science Division (SPSD) and Agricultural Research Service (ARS) organized a soil science training to familiarize new employees with soil science concepts, methods for collecting data, and an introduction to both the Plant Materials Center (PMC) and the Dale Bumpers Small Farms Research Center.

Background

The day began in the conference room where PMC manager, Stephen Haller, gave an overview of the Booneville PMC. The Booneville PMC consists of 40 acres of ARS land and 240 acres of state land from Arkansas. Haller spoke about the large-scale production of 580 active plants that have been released for NRCS conservation practices.

Philip Owens, research leader for ARS, talked about how the ARS is implementing the use of technology in small farm production. Owens discussed how self-driven tractors which accurately apply fertilizer can remedy the over application of phosphorus and how drones can be utilized to determine soil health. He also reviewed that ARS has 2300 acres with 500 cattle and 300 sheep bred to be resistant to worms. Zamir Libohova, ARS research soil scientist reviewed soil science concepts.

Next the group visited three soil pits on the backslope, footslope, and toeslope hillslope positions. Larry Gray, Hot Springs MLRA SSO leader reviewed how to map soils and how much variability can be found in one soil delineation. Richard Vaught and Justin Morgan, Arkansas NRCS resource soil scientists, explained how to describe a soil profile and how soil characteristics such as color and texture are used to make soil interpretations.

Key Outcomes

The group visited three pits in various landscape positions, where they could identify and discuss the differences in each soil. Due to a collaborative effort from all staff involved, attendees were able to get an overview of various ongoing projects and at the center of it all, the importance of soils.



Looking downslope from the first, second then third soil pit excavation sites at a soil science training event held Wednesday, April 12th, 2023, in Booneville, Arkansas.



Phillip Owens, USDA-ARS research leader, discussed soil properties with training participants during a soil science training event held Wednesday, April 12th, 2023, in Booneville Arkansas.