USDA United States Department of Agriculture

Natural Resources Conservation Service

Soil and Plant Sciences Division

Soil Survey Region 5

MLRA 73 Soil Survey Office

Soil Health Assessments with Kansas State University

Purpose

In late October of 2018, the MLRA 73 office staff assisted Kansas State University (KSU) with a project studying soil health and dynamic soil properties. This project is one of a series evaluating soil health field assessments and lab methodologies that detect changes across differing land management systems. The MLRA staff investigated three clusters of sites of rangeland, no-till, and conventional tillage, all on the Keith soil series.

MLRA 73 staff and KSU personnel evaluating a potential test site.

During the week of November 12th, staff from the Garden City, Hays, and Salina Soil Survey Offices, the Kansas State Office, and Soil Survey Region 5 assisted KSU with characterization sampling and soil health assessments of the three sites. The MLRA staff completed the characterization sampling of three pits of the Keith soil series, and Regional Soil Health Specialist Candy Thomas, Soil Health Specialist Dale Younker, and Natural Resource Soil Scientist Skye Wills trained the KSU personnel on the use of our *Field-Based Soil Health Assessment*.

Key Outcomes

Farmers and ranchers in western Kansas are interested in understanding how they can build resiliency in periods of drought in their soils. Western Kansas soils are subject to erratic periods of high intensity rainfall, and any additional saved moisture or improved infiltration of rainfall is beneficial to growing crops. A common question is "*What is the current status of organic matter in farmed soils*?" Studies like these shed light on how different crop management systems impact soil organic matter and water movement.

By evaluating the collected soils data, the current soil health assessment tools, and the crop management systems as they apply to comparable soils, conservation planners can help land managers evaluate farming practices. This collected information ensures that conservation planners use the proper tools to

KSU and NRCS personnel discussing procedures to complete the Soil Health Assessment.

assess soil health. The data shed light on trends in changes to soil organic matter and water movement with changes in crop management systems.

Always looking for better ways to utilize our lands, always sharing the information with our partners and customers: *This is how we help people help the land*.