

SOIL AND PLANT SCIENCE DIVISION

Technical Soil Services

South Central Soil Survey Region



Altus, Oklahoma Major Land Resource Area (MLRA) Soil Survey Office (SSO)

SPSD Teaches Soil Science and Soil Health at the Natural Resources Outdoor Classroom Event

Purpose

On Thursday, May 11, 2023, Altus MLRA SSO soil scientist Tyler Kempf presented soil health information at the Natural Resources Outdoor Classroom event. The event was hosted by the Tillman County Conservation District at the Tillman County Fair Complex in Frederick, Oklahoma.

Key Outcomes

At the event, Kempf presented soils information to over one hundred fourth grade students, teachers, and parents from four different school districts. Kempf started by asking students to describe the importance of soil and how soil is important in their daily lives.

Once students understood the importance of soil, Kempf talked about how precipitation influences soil erosion. Kempf used the heavy rainfall on the morning of the event, as an opportunity to explain that when it rains, the main goal is for the water to infiltrate into the soil. Additionally, Kempf discussed that water infiltration is influenced by a variety of different site and soil characteristics, most notably vegetation and soil texture. He then used assorted sizes of Styrofoam balls to demonstrate the difference between sand, silt, and clay soil particle sizes. Students then discussed the importance of infiltration by making connections to groundwater recharge, runoff, pollution, and the way humans and wildlife depend on water and soil.

Throughout the day, students had the chance to view soil cores, identify different soil horizons, and describe what they observed. The highlight of the event was when students dug in a tub full of live worms while discussing the importance of living organisms in the soil. Students also got to dig around in another tub filled with soil to

look for plastic insects and reptiles.

Kemph then had the students compare soil aggregates from a no-till and conventional till system and explained how the no-till field is a better “home” for the organisms they found in the tubs and how the no-till system increases soil health. Kemph concluded by reminding students of the valuable role vegetation and soil play in our daily lives and why it is important to protect and conserve the soil as a valuable resource.



Students looked for insects in buckets of soil during the Natural Resources Outdoor Classroom event held Thursday, May 11, 2023, at the Tillman County Fair Complex in Frederick, Oklahoma.



Students dug for live worms in a bucket of soil during a Natural Resources Outdoor Classroom event held Thursday, May 11, 2023, at the Tillman County Fair Complex in Frederick, Oklahoma.