

Natural Resources Conservation Service

## Soil and Plant Science Division

Southern Great Plains Region 9



**MLRA Soil Survey Office: 9-RBT**

### Spreading the Knowledge of Soils to the Youth of South Texas

#### Purpose

Every opportunity a soil scientist has to talk about soils, they will talk. When it comes to educating students of any age, hearing a soil scientist speak of soils can really get their attention. Gary Harris, soil scientist, MLRA Leader, along with Jim Akin, soil scientist, and Guadalupe Rodriguez, soil scientist (intern) shared their soils knowledge with both college-level students and pre-school age students.

Soils are everywhere on Earth, from the bottom of the oceans to the tops of the mountains, and soils are full of life—microbial life—needed to maintain healthy soils that grow crops, trees, and other plants that feed humans and animals, and provide habitats, as well as clean the air and water.

In preparation for the National Soil Judging Contest, staff from the Robstown, Texas MLRA Soil Survey Office coached a team of students from Texas A&M-Kingsville. These sessions were focused on describing soils in pits at various locations on school property. Field sessions focused on horizon identification using soil color, concentrations and fragments in the soil, plant roots, insect activity, hand texturing, and identification of structure. While classroom sessions focused on taxonomy and classification of the soils.



**Students describe the Lattas soil in preparation for the National Soil Judging Contest.**



One soil pit they described contained the Lattas soil which is a very deep, moderately well drained, very slowly permeable soil. This soil formed in clayey sediments of the Beaumont Formation of Pleistocene age. Today, this area is used for cropland, improved pastureland, and rangeland. Crops such as grain sorghum, cotton, and corn are grown on this soil. Coastal bermudagrass can be found in areas of improved pastures. Rangeland has a variety of native grasses such as vine-mesquite and plains bristlegrass, and woody invaders such as mesquite and huisache. Each piece of information is significant when identifying soils in an area. The coaches covered the things that the team needed to know and identify during the contest, and future soil mapping activities.

The Robstown staff switched gears and took their soils tools and soil samples to a preschool in Corpus Christi, Texas. The students asked questions as the soil scientists used a soil profile and soil tools to show the students different things found in the soil. They explained how important the soils are to grow the foods that humans, animals, and birds eat, as well as how the plants can be used as a habitat for wildlife. They even talked about some soils that can be used to grow plants that can be turned into clothing. Some tools soil scientist use in the field, were brought and used for demonstration purposes. The best part was at the end of the session when the preschoolers – who like to get their hands “dirty” – were especially excited when they got to look at different colored soils, and finally, after great anticipation put their hands into the soils and feel the differences in the soil textures.



Soil profile of a Lattas soil found on nearly level to gently sloping Gulf Coast Prairies of southern Texas.

## Key Outcomes

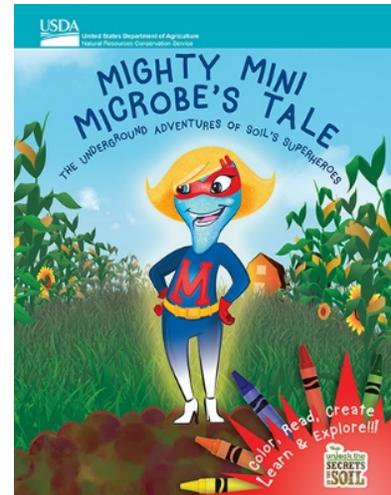
The Texas A&M-Kingsville team competed and gained a top 10 finishing in the National Soils Judging Contest.

The preschoolers received the USDA “Mighty Mini Microbe’s Tale” coloring book at the end of the presentation. The coloring book takes the students through a journey in the soil to learn about the soil, soil health, and how microbes in the soil benefit from soil health and how people benefit from healthy soil.

## Conclusion

Events such as the National soil judging contest at the collegiate level prepares the next generation of soil scientists. Educating students, from preschool to high school, about soils will ensure future generations of soil scientists. This year students of all ages learned about soils, our environment, and how they are connected to each one of us. As the school year starts again it is important to remember that “all of us” should be students learning more about the soils we live with every day. For more information, see the USDA NRCS Soils Education website at: <https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/edu/>

Soil scientists know how important the soils are to sustain life, and they want to share that knowledge with everyone.



Mini Microbe’s Tale can be found at: <https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/health/?cid=nrcseprd1359853>