

2022 Soil Survey & Land Resource Workshop



59th Annual
February 9-10, 2022
Online



Wednesday, February 9, 2022

Session I: Cooperative Updates

Moderator: Jake Mowrer

- 8:15 am Introductions Alan Stahnke
- 8:30 am Welcome and Comments Elsa Murano, *Associate Vice Chancellor for Strategic Academic Initiatives, Texas A&M AgriLife*
- 8:45 am Highlights of the National Cooperative Soil Survey in Texas Alan Stahnke, *State Soil Scientist, USDA NRCS*
Jo Parsley, *Soil Survey Regional Director, South Central Region, USDA NRCS*
David Lindbo, *Director, Soil and Plant Science Division, USDA NRCS*
Jake Mowrer, *State Soil Extension Specialist, Texas A&M AgriLife Extension*
Felipe Aburto, *Assistant Professor, Texas A&M AgriLife Research*
David Hoover, *Director, National Soil Survey Center, USDA NRCS*
- 10:15 am What's New at the Center
- 10:30 am BREAK and POSTERS***
- 10:45 am Kellogg Lab Update Deb Harms, *National Leader Kellogg Soil Survey Laboratory, USDA NRCS*
Jennifer Ingham and Chrystal Schaecher, *Physical Science Technicians, Kellogg Soil Survey Laboratory, USDA-NRCS*
- 11:00 am PSSAT Update Shanna Dunn, *President, Professional Soil Scientist of Texas*
- 11:15 am Texas Board of Professional Geoscientists Update Becky Johnson, *Chair, Texas Board of Professional Geoscientists*
- 11:30 am Soil Health Institute Update Dianna Bagnall, *Research Soil Scientist, Soil Health Institute*
- 11:45 pm LUNCH**

Session II: Student Presentations

Moderator: Julie Howe

- 1:00 pm The Effects of Marine Inundation on the Formation of Saline and Sodic Properties in Coastal Vertisols Sarah Kogler, *Baylor University*
- 1:15 pm Cover Crops Protect Soil and Provide Forage Isaiah Robertson, *Texas A&M University*
- 1:30 pm Soil C Dynamics in a Tropical Secondary Forest after >60 years of Abandonment of a *Theobroma cacao* Plantation Katherine Quiñonez-Gonzalez, *Texas A&M University*
- 1:45 pm Retrieval of Root Exudates During Progressive Drought Harrison Coker, *Texas A&M University*
- 2:00 pm Cover Crop Impacts on Soil Carbon in Central Texas María Velazquez, *Texas A&M University*
- 2:15 pm Soil Microbial Response to Long-Term Management Practices in Cotton Systems of the Semi-Arid Texas Southern High Plains Billi Jean Petermann, *Texas Tech University*
- 2:30 pm Harnessing Soil Health to Mitigate Greenhouse Gas Emissions in Semi-arid Pasture Systems Raavi Arora, *Texas Tech University*

2:45 pm Carbon Sequestration in Sandy Soils of Arid and Semi-Arid Climates: A Review Samantha L. Colunga, *University of Texas Rio Grande Valley*

Session III: Early Career Panel

Moderator: Bryan Christensen

3:00 pm Bringing Diversity to the MLRA Office in Woodward Oklahoma - A Journey from the Tropics to the High Plains Yanuel Charriez Rosado, *Woodward, OK, MLRA Soil Survey Office, South Central Region, USDA NRCS*

3:15 pm **POSTER SESSION*** **(Poster authors should be present to discuss virtually)**
ADJOURN

***Poster Session**

1 Improving Seasonal Streamflow Forecasts for Irrigation Districts Using Remote Sensing Mingxiu Wang, *Texas A&M University*

2 Vertisols: Expanding our Vision Kathryn Watkins, *Texas A&M University*

3 Characterization of Soil Physical and Hydraulic Properties of Texmesonet Monitoring Sites Bismark Osei, *Texas A&M University*

4 Tillage Practice Affects Soil CO₂ Respiration More Than Cover Crops the Second Year of an Organic Cotton Study Parker Murphree, *Texas A&M University*

* Posters authors will be available in breakout rooms to discuss. QR codes will direct you to the poster online.

Thursday, February 10, 2022

Session IV: Applications of Soil Survey

Moderator: Ashley Anderson

8:15 am Using the NRCS In-Field Soil Health Assessment Dennis Brezina, *USDA NRCS Texas*

8:30 am Soil Climate Investigations in the West Cross Timbers Erin Hourihan, Larry 'Alan' Deubler, *Soil Survey Regional Office, South Central Region, USDA NRCS*

8:45 am Soil Health Metrics of Eight Land Uses in East Texas Tyson Hart, *Nacogdoches & Bryan, TX MLRA Soil Survey Office, South Central Region, USDA NRCS*

9:00 am Bona Fide Soil and Ecological Science is Scientific Integrity Wayne Gabriel, Roel Guerra, Alexander Stum, Erin Hourihan, Bryan Christensen, *Soil Survey Regional Office, South Central Region, USDA NRCS*

9:15 am Raster Soil Survey by Disaggregation: Boeuf Watershed Louisiana Alexander K. Stum, *Soil Survey Regional Office, South Central Region, USDA NRCS*

9:30 am Discussion on Soil Temperature Monitoring in MLRA 77E Brandon Vaverka, *Woodward, OK, MLRA Soil Survey Office, South Central Region, USDA NRCS*

9:45 am Coastal Zone Soil Survey and Blue Carbon Mapping Greg Taylor, *Senior Soil Scientist for Special Projects, Soil and Plant Science Division, Raleigh, NC, USDA NRCS*

10:00 am BREAK

Session V: Climate and Carbon

Moderator: Kelly Attebury

10:15 am Soil Sampling for Soil Carbon Inventories: Where, How Deep, and When to Dig Beyhan Amichev, *Nacogdoches & Bryan, TX MLRA Soil Survey Office, South Central Region, USDA NRCS*

10:30 am Carbon Sequestration: The Science Behind the Land Management Sara Russell, *Nacogdoches & Bryan, TX MLRA Soil Survey Office, South Central Region, USDA NRCS*

- 10:45 am Soil Type Dependency of C:N:P and Mineralogical Alterations after Native Forest Conversion to Plantations Felipe Aburto, *Texas A&M University/Texas A&M AgriLife Research*
- 11:00 am Multi-Omics of Organic Matter Peyton Smith, *Texas A&M University/Texas A&M AgriLife Research*
- 11:15 am Carbon Capture and Storage as Pedogenic Carbonate Curtis Monger, *New Mexico State University*
- 11:30 am Soil Aggregation and Carbon Distribution Across a Clay Gradient Engil Pereira, *University of Texas Rio Grande Valley*
- 11:45 am LUNCH**

Session VI: Soil Health

Moderator: Felipe Aburto

- 1:00 pm Effect of cover crops on soil quality parameters of a Fraternidad soil (Typic Haplusters) at Lajas Valley Agricultural Reserve Adriana Rivera Alejandro, *Nacogdoches & Bryan, TX MLRA Soil Survey Office, South Central Region, USDA NRCS*
- 1:15 pm Addressing the Nitrous Oxide Emission Problem in Agriculture Nithya Rajan, *Texas A&M University/Texas A&M AgriLife*
- 1:30 pm Addressing the Sample Number Question in Soil Health Ayush Joshi Gyawali, *Texas A&M AgriLife*
- 1:45 pm Collecting data on urban soils to provide insight on how to improve soil health and water quality within the urban setting Gary Harris, *Robstown, TX, MLRA Soil Survey Office, South Central Region, USDA NRCS*
- 2:00 pm **BREAK**
- 2:15 pm Soil Health Measurements on Hill Country Ranches Travis Waiser, *Kerrville, TX, MLRA Soil Survey Office, South Central Region, USDA NRCS*
- 2:30 pm Taking a Deeper Look at Regenerative Agriculture Practices Through the Scope of a Dynamic Soil Properties Project Tyson Morley, *Altus, OK & Abilene, TX, MLRA Soil Survey Office, South Central Region, USDA NRCS*
- 2:45 pm Evaluating the Impact of Conservation Systems using Applied Soil Science Techniques Steven McGowen, *Woodward, OK, MLRA Soil Survey Office, South Central Region, USDA NRCS*
- 3:00 pm An Improved Method for Characterizing the Effect of Drought on Root Exudates Using an Aeroponic System Heng-An Lin, *Texas A&M AgriLife*
- 3:15 pm Integrating Grazing and Cover Crop Production into Texas Agriculture Julie Howe, *Texas A&M University/Texas A&M AgriLife*
- 3:30 pm AWARDS and Closing Remarks** Julie Howe
- ADJOURN**