Soil Science Research Program

Enhancing the Sustainability of Soil Resources in Agricultural Lands and Forests

TEXAS A&M AGRILIFE
RESEARCH AND EXTENSION CENTER AT OVERTON

Soil health management in East Texas and beyond

My research focuses on understanding soil microbial communities and functions in the rhizosphere environment, aiming to identify plant-beneficial microbes and their interactions for applications in biofertilization, disease suppression and bioremediation. I employ both biogeochemical analysis and genomic tools to characterize soil microbiome and its functional responses. Current research projects also focus on developing novel soil sensing tools, improving soil health modeling and application of soil microbiome management to mitigate risks of plant and human pathogens in agricultural systems.

The long-term goal of the soils research program is to enhance the sustainability of soil resources and their ecosystem services in agricultural lands and forests by understanding and applying practices that promote soil health, increase soil microbial diversity, enhance carbon sequestration, and mitigate greenhouse gas emissions. The program is also focused on developing innovative soil management technologies to improve soil properties such as disease suppression and bioremediation. The research program employs comprehensive soil analysis techniques, metagenomics, and modeling tools to characterize soil biogeochemical properties and their functional responses.

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BIO

Dr. Anil Somenahally is an Associate Professor of Soil Science with 100% research appointment. He received a PhD in Soil Microbiology from Texas A&M University, MS in Soil Science from Tarleton State University, and BS from University of Agricultural Sciences, Bengaluru, India. He did his Postdoctoral Research work at Oak Ridge National Laboratory.