

Research Profile – Tom DeSutter

Tom DeSutter

Department: AES School of Nat Res Sciences, Soil Science

Campus Location: Walster 214



Brief background about yourself:

I was born and raised in Hawarden, IA. I obtained my BS and MS degrees from South Dakota State University. After which I was a research technician at Kansas State University working on seepage from animal waste lagoons. I decided to further my education while at Kansas State University and obtained my PhD in 2004. I acquired my current position in 2006 while I was doing a Post-Doc at the National Laboratory for Agriculture and the Environment, Ames, Iowa.

Tell us about the goals of your research program?

The goals of my research project are to better understand the effects of salts and sodium on soils and to find agricultural uses for industrial byproducts.

More specifically, what is the primary focus of your current research?

The objectives of this research project are to determine how various water management strategies (controlled-, free-, and no-subsurface drainage, and cover crops) influence the sodification of high-risk soils.

What are your long term objectives?

Like any research project, one of the long-term goals is to complete the projects. On top of that, I want to develop guidelines for managing problem soils.

How do you feel it will impact the region, nationally, globally?

Thinking globally, salt- and sodium-affected soils cause crop loss, no matter where you live. At NDSU, I feel we are the top university dedicating as much time and human capital on understanding and managing salt- and sodium-affected soils. In all, there are over 15 NDSU faculty members who have at least one project dealing with these problem soils.

When finished, what will your work mean? What will it mean to the state of ND?

When finished, my work will attempt to provide management for soils negatively impacted by sodium and soluble salts. North Dakota is globally recognized as a leader in food production. If we can provide improved tools and education on how to better manage soils, North Dakota will continue to excel at providing food, fuel, and fiber to a growing population.

What excites you the most about your project?

Developing this project has been exciting in itself. With any research project you are always discovering new research questions, and that's what helps keep my curiosity and drive going. If you already knew all the answers, research would not be interesting. Every day is a new adventure and I believe that is what keeps me and other researchers striving for more answers.

Do you have any graduate/undergraduates helping with this project?

Yangbo "Kathy" He is a PhD student; developing management guidelines for sodium-affected soils.

Sukhwinder Bali is a PhD student; quantifying the taxonomic similarities and differences across sodium- and salt-affected soils.



What is the greatest reward after the completion of a project?

As a researcher, you will find many great rewards along the way, but the three greatest rewards for me are training graduate students, getting the email saying your manuscript has been accepted, and seeing your research put into practice.

Do you teach any undergraduate or graduate level classes?

Soil and Land Use, SOIL 410/610

Environmental Field Instrumentation and Sampling, SOIL 721

What is your advice for students who want to go into your field of study?

If you have any interest in biology, chemistry and physics I would say this field of study would be a good fit for you. Soil science is a combination major that allows students who do not have a farming background, to be active in the use of the land. Soil science is made for those students who have a strong work ethic and want a professional career that will give them daily satisfaction in trying to improve a very important part of our earth, the soil.

What are some of your hobbies/activities you like to do when you are not spending time on your research project?

When I am not working in the field or my office, I enjoy spending my time doing home-construction projects, walking our dog, and fishing. I am currently working with a former faculty member writing a book about catfishing on the Red River. If anyone wants to locate me during the lunch period, during times of decent weather, I can be found on the court north of Pavak Hall attempting to put an orange ball through a rim that is much too small.

If you have any further questions, please feel free to contact Tom:

Email: thomas.desutter@ndsu.edu

Work: (701) 231-8690

