



Environmental Science Graduate Program Student Seminar Series

An integrated approach to assessing the impacts of extreme precipitation on soil health and farmer decision-making

- ◆ Prabhjot Singh
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Abstract

This research will combine social science methods and biophysical soil testing to assess the impacts of extreme precipitation on soil health and farmer decision-making in northern Ohio. Interviews will be conducted with approximately 20-30 row crop farmers to gather their insights on the perceived impacts of extreme precipitation on soil health, as well as their management decisions following the 2019 growing season. Quantitative data will be collected in the form of soil health indicators and soil fertility parameters and reported back to farmers to discuss how soil health measures could inform their future management decisions. These data will also be used to determine if there is evidence of deficiencies in the soil health as a result of variable precipitation caused by climate change. Ultimately, the research will evaluate if long-term weather patterns influence management practices among farmers and if the results of soil testing could encourage more sustainable management practices. Furthermore, this study will highlight the importance of interdisciplinary work by integrating social and natural sciences to gain a comprehensive assessment of farmers' perceptions and practices in relation to agricultural soil health. In doing so, the research will address a vital issue in Ohio specifically and the Midwest more generally.