

# Two PhD Assistantships Available at The Ohio State University

The frequency of flood events has continued to rise in the U.S. Midwest and has resulted in \$7.7 billion in damages from 2013-2017 alone. Past research has focused heavily on managing for drought events, but minimal emphasis has been placed on management for flooding events although the magnitude of loss is similar. There is a critical need to understand how adverse weather conditions are impacting soil food webs, nutrient cycling processes, and crop establishment and yield in order to improve nutrient use efficiency and reduce losses.

Our overall objectives are to understand how flooding impacts soil ecosystem functionality and diversity and to identify key management practices for use in corn production to minimize the negative effects of flooding. The specific aims of the project are to: 1.) determine how different cover crops impact water, nutrient cycling, rhizosphere biology, and crop yield in the event of flooding; 2.) measure the impact of N source (synthetic and biological) and flooding on nutrient use efficiency, yield and rhizosphere biology; and 3.) develop a diagnostic post-flood soil test for post-flood N recommendations. As such, **two PhD assistantships are available beginning May 2021** to work on these projects.

One assistantship is available through the School of Environment and Natural Resources (PI: Dr. Christine Sprunger, [sprunger.29@osu.edu](mailto:sprunger.29@osu.edu)) to focus on the characterization of soil rhizosphere aspects and quantify nutrient cycling dynamics.



*Field experiencing imposed flooding at the Waterman Agricultural and Natural Resources Laboratory, Columbus, OH.*

A second assistantship is available through the Department of Horticulture and Crop Science (PI: Dr. Alex Lindsey, [lindsey.227@osu.edu](mailto:lindsey.227@osu.edu)) to focus on the corn physiological and agronomic aspects of these projects.

## Interested In These Opportunities?

To learn more about these opportunities please contact Dr. Alex Lindsey at [lindsey.227@osu.edu](mailto:lindsey.227@osu.edu) and/or Dr. Christine Sprunger at [sprunger.29@osu.edu](mailto:sprunger.29@osu.edu).