

The role of agricultural advisors in farm nitrogen decisions

Mentors:

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Background:

Nitrogen (N) is an essential nutrient for life and an important component of agricultural crop production. Use of N fertilizers in Midwestern corn agriculture can contribute to a variety of environmental problems, including local water pollution, “dead zones” in coastal areas, and climate change through nitrous oxide production in soils. Farmers can minimize N loss by utilizing a variety of production practices and technologies that improve N use efficiency by crops, as well as decreasing N fertilizer inputs.

As part of a larger socioecological research effort, we have explored farmer decision making concerning N fertilizer practices. Farmer N decision making and use of efficiency practices is influenced by a variety of sources. Foremost among these appears to be private sector agriculture advisors. We know little about the types of information that these advisors have access to or what they are passing along to farmers. Farmer use of N efficiency practices by Midwestern corn growers is relatively low. Understanding the role of private sector advisors will help university researchers and Extension improve interventions that can raise farmer adoption of key practices.

Research Project:

This summer we will be conducting interviews with agricultural advisors in Southwest Michigan to explore their knowledge of N efficiency practices, their relationships with farmers, and potential opportunities for improved engagement between advisors and university specialists. The selected REU student will participate in a variety of stages of this project, including crafting interview guides, contacting prospective interview participants, conducting interviews with advisors, and analyzing the interview data. The student’s research will provide valuable insights into how advisors work with farmers, the types of information they give, and their training and perspectives on nitrogen efficiency tools.

This REU fellowship will provide training in social science research methods. This research project will allow the student to place their work within the context of a broad socioecological context, a framework of growing importance in a variety of environmental disciplines. In addition, there will be possibilities for exposure to other elements of the coupled systems project, including field work being conducted on soil nitrous oxide dynamics at KBS this summer.

The anticipated research project will take place at MSU’s Kellogg Biological Station (KBS) from May 23-August 5, 2016 (11 weeks). The research will involve contacting and arranging interviews with agricultural advisors, as well as travel to interview sights in a multi-county area around KBS (30-60 minute travel times). The work schedule will average ~40 hours a week. This research requires strong people skills and the ability and willingness to interact with agricultural professionals. The student will be expected to be resourceful, open to providing and receiving constructive feedback, and enthusiastic.

We look forward to mentoring an undergraduate student this summer. We encourage applicants without prior training in social science methods, though candidates should be enthusiastic about learning these methods and have had some exposure to social science disciplines through coursework or experience. Feel free to email apreimer@msu.edu with questions.