

Frequently Asked Questions

Conservation and Crop Risk Management Research Pilot

A study of conservation impacts on commodity crop production related to wet weather and prevent plant in 2019

Fall 2020

WHAT IS THE PURPOSE OF THE PILOT?

The goal of the research pilot is to analyze United States Department of Agriculture (USDA) and additional third party datasets to understand how current and historic implementation of cover crop and no-till practices affected whether fields could be planted in 2019, when they could be planted, and the yield that was obtained. This research pilot establishes a framework for collaboration between USDA and land grant universities in order to facilitate research that will assist USDA in carrying out its missions in the areas of conservation and crop risk management.

WHY IS THIS PILOT IMPORTANT RIGHT NOW?

In 2019, excessive moisture and flooding prevented planting on 19 million acres of farmland, resulting in more than \$4 billion in crop insurance claims. On tens of millions of additional acres, planting was delayed by multiple weeks, with potential yield reductions from late planting. Anecdotal reports indicate that farmers who implemented conservation practices may have reduced their prevent plant risk and in some cases plant earlier than on conventionally managed fields. This research will identify whether there is scientific validity to such anecdotal reports, or whether the datasets available can be used in this manner with a degree of confidence and scientific rigor. It is critical that the relationship between conservation practices on crop risk exposure, yield variability, and farm resilience be better understood to help farmers and ranchers improve their productivity, profitability, and sustainability.

In the past, careful research has led to constant improvements in helping American agriculture produce more food, while reducing its environmental footprint; this project takes the next natural step of integrating data from multiple sources to continue this trajectory of innovation in the agricultural sector.

WHERE WILL THE PILOT FOCUS ITS RESEARCH?

The pilot study focuses on six states - Indiana, Illinois, Iowa, Missouri, Minnesota, and South Dakota. The geographic area of the pilot was chosen to provide east to west and north to south comparisons that had relatively high amounts of fields with prevented planting claims in 2019.

WHAT ARE THE RESEARCH QUESTIONS TO BE ADDRESSED BY THE PILOT?

Broad questions to be addressed in the pilot study include:

1. How did cover crop and no-till practices, particularly where used for multiple years, impact the timing of planting for commodity crops on selected fields in 2019?
2. How did cover crop and no-till practices, particularly where used for multiple years, impact whether a commodity crop was planted or whether the field was declared “prevented plant” for 2019?
3. How did cover crop and no-till practices, particularly where used for multiple years, impact yields on selected fields in 2019?

HOW WILL THIS PILOT CONTRIBUTE TO TECHNICAL ASSISTANCE IN THE AREAS OF CONSERVATION AND RISK MANAGEMENT?

The pilot will inform the delivery of conservation technical assistance to farmers by evaluating the effects of conservation practices, specifically cover crops and no-till, on risk management. The pilot is intended to further agency missions by demonstrating how using USDA datasets across multiple agencies in conjunction with other available third party data sets can be analyzed together to unlock important new insights about conservation and risk management. In addition, the pilot is intended to discover how datasets across multiple USDA agencies work together, and where useful data is missing, which can inform USDA’s efforts to improve data collection, integration, and analysis.

WHO IS PART OF THE PILOT RESEARCH AND ADVISORY TEAM?

The principal researcher for this effort is Dr. Bruce Sherrick at the University of Illinois at Urbana-Champaign, with advice and support from Dr. Rob Myers at University of Missouri-Columbia. In addition to the research team, an advisory group comprised of researchers and agricultural experts from the six states targeted by this pilot will provide advice and support. Throughout the pilot, the research team will be in consultation with USDA officials to coordinate sharing of data and research results. Meridian Institute serves as a convener of the advisory group and played a key role in designing and executing this collaboration.

HOW IS THE PILOT BEING IMPLEMENTED?

In October 2020, USDA, the Meridian Institute, and the University of Illinois signed a Memorandum of Agreement (MOA) to implement this pilot. The MOA outlines the purpose of this research, the protection of confidential information, and the management of USDA datasets. The pilot was designed and executed in cooperation with USDA and allows for the limited sharing of producer information for the purposes of improving technical or financial assistance delivery to producers. This research is being funded through a grant from the Walton Family Foundation.

WHAT DATASETS WILL BE USED BY THE RESEARCH TEAM?

Much of the data for this research pilot comes from USDA sources, particularly the Risk Management Agency and Farm Service Agency. In addition, certain relevant information may be obtained from the Natural Resources Conservation Service and the National Agricultural Statistics Service. We also expect we will need to complement USDA data with information from other public sources (such as weather data) as well as combined public/private analysis efforts from remote sensing and image processing efforts that have been developed outside of USDA.

HOW IS THE RESEARCH TEAM PROTECTING DATA PRIVACY?

The University of Illinois is the data steward for this pilot, and they subject to a set of data privacy requirements to protect confidential and personally identifiable information in accordance with applicable Federal law. These privacy requirements are outlined in the pilot MOA and specify that the researchers may only use the USDA datasets for the purposes of this pilot and will not share the data with any other individual or organization without express written permission from USDA. In addition, any publications produced from this research will be reviewed by USDA before publication. At the conclusion of the pilot the University of Illinois will properly destroy the data.

WHEN WILL THE PILOT BE COMPLETED?

The pilot will be completed by December 2021. It is expected the research results will be summarized in a joint publication between the University of Illinois and USDA and submitted to an academic journal for peer review and publication.

WHO SHOULD YOU CONTACT WITH PILOT STUDY QUESTIONS?

Questions about this pilot study should be directed to Dr. Bruce Sherrick at sherrick@illinois.edu or Deb Atwood at datwood@merid.org.