IowaNREC

Reducing Nitrogen & Phosphorus Losses to Improve Water Quality

The Iowa Nutrient Research & Education Council strives to be a credible, unified voice for measurements and data to demonstrate progress on the Iowa Nutrient Reduction Strategy.

HOW IT STARTED

The Iowa Nutrient Reduction Strategy was released in 2013 in efforts to reduce 45% of the total nitrogen and phosphorus loads from entering Iowa waterways and traveling down the Mississippi River into the Gulf of Mexico.

The Iowa Nutrient Research & Education Council (INREC) was created in 2014 to support, monitor and report on progress towards these efforts through science-based solutions and collaboration across Iowa's agricultural production system.

INREC is the **one of the first organizations in Iowa** that strategically brought and is still bringing together major farm and commodity groups, agriculture retailers, agribusinesses, and crop advisors to help lead agriculture's efforts for Iowa's Nutrient Reduction Strategy.

HOW WE CONTRIBUTE

PROGRESS MEASUREMENTS

INREC utilizes a first-of-its-kind system using ag retailer sales data and farm records to track and demonstrate progress being made by Iowa farmers for the Iowa Nutrient Reduction Strategy.

NEW TECHNOLOGY DEVELOPMENT & VALIDATION

INREC collaborates with numerous partners to foster innovation of new technologies and validate products and practices for nutrient reduction performance.

EDUCATION & OUTREACH

INREC provides increased outreach and training opportunities through workshops, field days and informational materials. These efforts are to help ag retailers and crop advisers with advising farmer decisions regarding nutrient reduction technologies and practices.

INREC SURVEY

INREC worked with Iowa State University to develop a first-of-its-kind data collection system using agricultural retailer sales data to track in-field nutrient applications and conservation practices.

The following system has been used for a statistical extrapolation of statewide nutrient reduction practices since 2017:

1. **Identifying Ag Retailers**
   Out of the 600+ agricultural retailers in Iowa, 150 retail locations are selected at random and stratified across eight major land resource areas based on the percentage of row crops each year.
2. **Selecting Fields for Evaluation**
   Upon notifying the ag retailer of its evaluation selection, the ag retailer will identify ten fields to collect data randomly for in-field nutrient reduction practices identified in the NRS science assessment. An online survey is used to collect information from retailer records on randomly selected fields in Iowa.
3. **Conducting Samples**
   Once all 150 ag retailers have identified their ten fields for evaluation, approximately 1,000 of the 1,500 samples are gathered. This ensures Iowa State University has enough samples to evaluate from the targeted 500 samples.
4. **Evaluating Samples**
   INREC aggregates the data to ensure confidentiality, and the Iowa State University Center of Survey Statistics Methodology extrapolates the data for statewide adoption. Iowa State University models nutrient load reductions based on performances documented in the NRS science assessment.
5. **Comparing Results**
   The assessment of current status of practices is compared to the 1980-1996 baseline status of practices and nutrient export estimates to show how much nutrient loads have decreased or increased since the 1980-1996 baseline. 1980-1996 is the starting point for measuring Iowa's progress towards the goals of the Iowa Nutrient Reduction Strategy.

The INREC system is structured to be unbiased, representative, statistically significant and verifiable. By aggregating the data, the resulting water quality impact of practices can be calculated using water quality performance information from the Iowa Nutrient Reduction Strategy science assessment.

To learn more about our past and current projects, scan the QR code to the right with the camera on your mobile device.

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