Stewardship Meets Strategy

IowaNREC

Iowa's Plan to Keep Nutrients in Check

Managing nutrients begins with gathering data, analyzing it, and using it to guide decisions. Nutrients like N and P are essential for crops, but when they leave the soil and enter water sources, they can create problems downstream. Reducing that loss is about understanding what is happening on the land, tracking it across the state, and using science to make better decisions.

Iowa relies on a variety of pieces working together to make progress in nutrient reduction.

The Big Picture

The **Iowa Nutrient Reduction Strategy**, launched in 2013, aims to reduce N and P losses by 45%. Progress takes time. Weather changes, markets change, and farming practices evolve but water quality can respond slowly, especially at large scales.To know if the state is moving in the right direction, we need to measure three things:

- **What's happening on the land:** which practices are being used and where
- **What's happening in the water:** how nutrient levels are changing
- **How the two connect:** understanding how land practices affect water quality

This is where the **Iowa Nutrient Research & Education Council (INREC)**, formed in 2015, plays a key role. INREC promotes, monitors, and reports on nutrient reduction through collaboration across Iowa's agricultural landscape.

Measuring on the Farm (The INREC Survey)

Since 2017, INREC has been conducting a statewide nutrient reduction survey. It works through ag retailers who see nutrient decisions play out across thousands of acres each year. This data is carefully analyzed to reflect farming practices and real trends across the state. The survey collects detailed, field-level information on:

- **N and P rates, timing, and placement**
- **Cover crops, tillage, crop rotation, manure use, and soil testing**

Connecting the Dots (The INRS Dashboard)

The **INRS Dashboard** brings together data from the survey and other sources into one interactive platform. It links:

- Inputs like funding, staff, and education
- On-farm practices and conservation programs
- Water quality outcomes

The Dashboard helps showcase how changes on farms translate to cleaner water. It shows trends over time and highlights where progress is happening and where challenges remain.

Using Data to Guide Decisions (N-FACT)

The **N-FACT platform** turns measurement into action. Based on hundreds of full-field trials across Iowa, it shows:

- **Optimal N rates and efficiency across different fields and conditions**
- **Scenario-specific expectations for wet springs, delayed planting, or high residual soil N**

Farmers and advisors use N-FACT to make informed, field-specific decisions that improve nutrient use efficiency and reduce losses.

Insight to Action

This cycle of measure, learn, adjust, and repeat drives long-term improvement. Here's how it can all come together: farmers use N-FACT to adjust their management strategies and the INREC survey captures those changes in the field. The INRS Dashboard shows how practices affect water quality across Iowa and those insights guide future research, funding, collaboration, and more.

Making Progress, Step by Step

Iowa's approach to nutrient reduction and water quality progress rely on trust and transparency. By focusing on real-world data, not assumptions, INREC and the entire state can support farmers managing risk each season while improving the health of waterways. This turns many small, informed decisions into meaningful progress over time that the whole state can rely on and take pride in.