

# Linking Science and Technology to Profitability

**N**itrogen management is not a new topic for growers. Likewise, environmental concern is not a new idea either. When compared with 20-30 years ago, nitrogen use in Iowa has gone down, partly because many growers are applying lower rates per acre and partly because we're planting fewer acres to corn. While our corn yields have gone up, nitrate concentrations and the total amount of nitrogen going down the Mississippi has only increased.

I haven't met a grower yet who wants to buy nitrogen that ends up down the Mississippi. So where's the disconnect? There are many issues involved and we are not going to write a book about them all, but we would like to explain what we, the Iowa Soybean Association, and the MANY partners involved in what we believe is an important part of the solution. In short, it involves using tools that most farmers already own to evaluate what works and what doesn't. This sounds very simple, but few growers, not to mention the agencies, coops and institutions that advise them, can accurately say within 30 lbs. what the correct economic nitrogen rate was for a given field last year.

In Iowa, most of the emphasis on nutrient management has been based on planning. That's a good start, but it's limited to how good the plan is.

Most growers still use yield goals as a basis for nitrogen recommendations. While grain yield is important in determining the amount of nitrogen a crop needs, nitrogen contributions from other sources, like manure and crop residue, and loss of nitrogen are of far more importance than grain yield in determining how much commercial fertilizer should be applied. Peer reviewed scientific reports have documented this for 20 years in Iowa. The benefit of evaluation is that a better direction can be developed if one is available. Change is difficult for most, whether it is a grower, institution, or agency. The financial incentive is clear as documented at our On-Farm Network™ website, [www.isafarmnet.com](http://www.isafarmnet.com).

## Why change?

Profit! The hundreds of nitrogen management evaluations done so far by On-Farm Network cooperators show that adding evaluation to their planning process has led to higher returns.

In addition to profit issues, environmental pressures are increasing the need for environmental studies on the farm. Doing the same thing over and

over and expecting a different outcome makes no sense. Many growers are comforted to have data they can use to document not only why they did what they did but how well their plan worked. ***These performance assessments can also be used to evaluate effectiveness of any plan developed by any agronomist, agency, or institution.***

The support of the Iowa Legislature with their programming through the IFLM administered through IDALS helps cut through the bureaucracy and helps Iowa lead in this voluntary innovation. Support from the NRCS Conservation Innovation Grant also provides support for this innovation. Both of these sources leverage soybean checkoff money and provide a voluntary system of improvement based upon performance.

The following pages focus on different types of performance programming and issues raised about nutrient management, water monitoring and government programs. While some of the specifics are unique to the area represented, many of the concepts are applicable to any watershed.



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