

Program Overview

Midwestern farmers are longtime stewards of our productive region. They are uniquely positioned to solve the environmental and financial challenge of profitably and sustainably feeding a growing population while protecting the soil, air and water, on which our businesses, communities, and families all rely. As previous generations of farmers overcame the limitations of nutrient availability to feed more people on fewer acres, today's farmers are called to manage those nutrients to maximize input efficiency and optimize yield potential while minimizing environmental impacts.

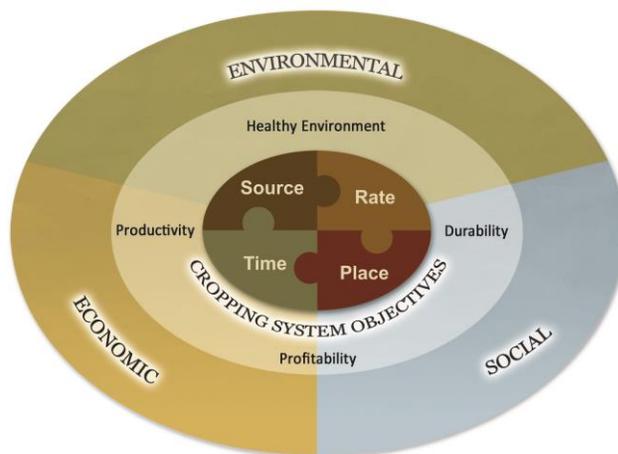
One of these impacts is increased emissions of nitrous oxide (N₂O) from nitrogen (N) fertilizer management. Delta Institute's Nitrogen Credit Program (NCP) offers farmers financial incentives for reducing N₂O emissions from synthetic and organic N fertilizers applied to their fields through a "4R" nutrient stewardship strategy. By implementing certain N management activities, farmers can earn emission reduction credits. NCP will pool eligible projects on a yearly basis, submit them for third-party verification, sell the verified N credits, and return any revenue from the sale (less transaction and verification costs) to participating farmers. This voluntary and market-based approach pays landowners, or renters by agreement, for the environmental benefits of their activities—all without government intervention.

This program is based on field trials conducted by Michigan State University (MSU) and MSU Extension. With support from the Electric Power Research Institute, data from that research was translated into a formula-based credit methodology endorsed by the American Carbon Registry.

The Nitrogen Credit Program works with farmers across the Midwest to encourage voluntary changes to fertilizer applications to reduce N losses and on-farm emissions of nitrous oxide, while maintaining crop yields and enhancing profitability.

About 4R Nutrient Stewardship

According to the International Plant Nutrition Institute (IPNI), the "4R" approach is defined as applying "the right source of nutrient, at the right rate, at the right time, and in the right place." To determine the right rate, IPNI recommends a site-specific assessment based on soil nutrient supply and plant demand. To learn more, visit www.nutrientstewardship.com.



Graphic Source: <http://www.ipni.net/article/IPNI-3323>

About Delta Institute

For fifteen years, Delta has served as a catalyst for environmental sustainability and economic development across the Great Lakes region. Delta has experience working with farmers and other private landowners to design and implement economic programs that create incentives for conservation activities. Through previous work in soil carbon credits, Delta enrolled 1,385 farmers and forest owners representing nearly 400,000 acres across 18 states. From 2006 to 2010, the program generated over \$2 million in additional revenue for participants.

Delta has a track record of tackling some of our region's toughest environmental challenges, driving systems change, and promoting economic development.



NITROGEN CREDIT PROGRAM

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Photo Source: USDA NRCS

Who is eligible for generating credit and which practices qualify?

Eligible participants are corn farmers in the North Central Region (as shown on the map below) who are interested in improving N use efficiency and can document that they have reduced, or are willing to reduce N fertilizer applications to the corn component of their crop rotation. Other practices—such as changing fertilizer timing or placement and using slow-release or inhibitor products—can also reduce N₂O emissions and may qualify for credit under a separate, model-based American Carbon Registry methodology. To date, however, only N rate adjustments on corn crops have been accepted in this region.



How much does it pay and how much will it cost me?

Individual revenues will be based on the number of N credits you generate through increased N use efficiency, less costs of verification and sale. The only cost to you is the time it takes to provide the data.

How frequently will I be paid?

Credits will be pooled in the winter after the harvest; they will then be verified, and payments will be issued on an annual basis.

What data or documentation do I need to provide?

- **Application dates, rates, and N content for each product applied**, for each field you enroll. If you have access to those same data points for the same field(s) for recent years, providing that information may help you generate more N credits. Your retailer or service provider may be able to provide recent historical data to NCP directly with your consent.
- **Field coordinates**;
- **Ownership and lease agreements** (in order to establish custody of any credits generated, you must document control of your land);
- **Fertilizer application records** (receipts, load sheets, or other documentation from your retailer/service provider);
- **Attestation of voluntary “4R” nutrient stewardship practice adoption**, depending on your state and cropping system. Links to relevant state agency, land grant university, and fertilizer industry resources are available through the NCP website.

What do I do next?

The first step is to engage in a screening process that will help you determine your farm’s N credit potential. Printable and electronic options for signing up can be found on the NCP website. After receiving your initial information, NCP will calculate your credit potential and follow up with you. If you decide you would like to proceed beyond the screening phase, your participation will be formalized by signing an agreement with NCP. After signing, you will then need to provide the data and documentation listed above for the fields you wish to enroll. All personal identification and farm operation information will be kept confidential.

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Once enrolled, will I need to submit any forms or documentation on an ongoing basis?

You can continue to participate and receive credits for a period of up to seven years. For each year you will have to submit an annual attestation form with fertilizer application data for your enrolled corn fields.

Why should we reduce N₂O emissions?

Nitrous oxide’s global warming potential is nearly 300 times that of carbon dioxide, and N₂O molecules remain in the atmosphere for 120 years. Through careful adjustments in N fertilizer application and other N management activities, farmers can reduce the harmful impact of N₂O on the environment, achieve cost savings through increased fertilizer efficiency, and maintain their crop yields while generating N credits.

What are the consequences if my N fertilizer application rates go above my historic baseline?

You will not generate any N credits, and therefore will not receive any payment. However you remain eligible for credits in your future corn rotations.

Can I withdraw from the program? Are there any penalties?

You may withdraw from the program with 30 days written notice; there are no penalties.

