What is AFREC?

AFREC stands for the Agricultural Fertilizer Research and Education Council. The program, which began in 2008, is tasked with improving fertilizer efficiency, farm profitability, and Minnesota's environment through soil fertility research, technology development, and education.

The council is made up of Minnesota farmers and crop advisors from each of the major agricultural groups in the state. The council's funding comes from a 40 cent per ton fee on fertilizer sales in Minnesota. Farmers in the state invest around five cents per cropland acre per year. This raises over $1 million each year.

This program was conceived, designed, funded, and managed with the support of the agricultural community. The Minnesota Department of Agriculture serves as an important partner to AFREC by collecting and managing the tonnage fee, providing legal and technical guidance, and overseeing all associated contracts. While the economic payback on the $13 million investment is impressive, the environmental benefits to Minnesota's water resources are undeniable. The agricultural community is unified in the continuation of the AFREC program.

AFREC at a Glance

- **$13 million** invested in soil fertility research and education in Minnesota since 2008.
- **~$1,000,000** raised per year for soil fertility and water quality research, technology, and education.
- **246** projects funded since 2008.
- **40¢** per ton fee on fertilizer sales in Minnesota funds AFREC.
- **5¢** per acre per year net cost to farmers for AFREC program.

Purpose of This Document

The fertilizer tonnage fee that supports AFREC is scheduled to sunset June 30, 2024. In order to continue this important program, Minnesota legislators need to take urgent action.

The Minnesota agriculture community is unified in support of AFREC and highly recommends that the fee and overall structure stay the same and the program be extended for another 10 years.

This factsheet and the companion detailed report are provided so legislators and other key decision makers have a clear understanding of the value of the AFREC program and can make an informed decision.

Learn more at: MNsoilFertility.com/legislative
Who Benefits From AFREC Research?

FARMERS As the saying goes, “many hands make light work.” A nickel per acre investment in science-based research that identifies cost-saving or yield-increasing practices and products can increase a farmer’s profitability.

EVERYDAY MINNESOTANS Sustainable, efficient farming is the backbone of Minnesota’s rural economy while producing affordable food and keeping our water clean for drinking and recreational activities.

SMALL BUSINESSES A recent University of Minnesota economic analysis found that AFREC research has the potential to impact all sectors of Minnesota’s economy, from real estate and health care to banks and restaurants.

STATE AGENCIES It’s integral that state water quality regulations are built upon a strong science-based foundation. Research developed through AFREC funding helps guide state agencies as they work to keep our water clean.

STATE CERTIFICATION PROGRAMS AFREC research contributes to the U of M’s fertilizer guidelines, which are the basis of programs such as the Minnesota Agricultural Water Quality Certification Program (MAWQCP). Learn more at z.umn.edu/MAWQCP.

Agricultural Community Support for AFREC

Legislators and other key decisionmakers:

AFREC (Agricultural Fertilizer Research and Education Council) has had a rich and productive history since its establishment fifteen years ago in 2008. Over $13 million has been carefully invested into soil fertility research and education programs. Unbiased scientific findings have reassured farmers and agricultural professionals that current fertilizer recommendations and associated management practices are highly relevant, and also provide cutting edge technology. These investments can yield huge gains in both farm economics and environmental protection.

AFREC is funded by a 40 cent/ton fee on fertilizer sales, which is collected by the Minnesota Department of Agriculture (MN Statutes 18C.425). This authority is scheduled to sunset June 30, 2024. Associated Council functions (established in MN Statutes 18C.70,71&80) are scheduled to sunset June 30, 2025.

It is imperative that soil fertility research continues to advance to keep pace with an ever-changing world. AFREC was conceived, developed, led, and funded by Minnesota’s agricultural community. The organizations listed below enthusiastically support continuing this important program.

We are asking for a ten-year extension and keeping the supporting fee at 40 cents/ton.

Sincerely,

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Broad Support for AFREC

“AFREC funding supports science-based research in Minnesota and is very valuable to the ag community. Program outcomes help farmers adopt the best soil fertility practices and keeps Minnesota agriculture strong and competitive.”
  - Thom Petersen, Commissioner, Minnesota Department of Agriculture

“Farmers and ranchers are the best stewards of their land and want to find new ways to enhance their operations through science-based research. AFREC helps create the research that gives those in agriculture more tools to have healthy soils, clean water, and economic vitality.”
  - Dan Glessing, President, Minnesota Farm Bureau Federation

“AFREC funding has been transformational in helping our top-tier faculty conduct research and education to address nutrient management issues in Minnesota. This support is critical to faculty and graduate student recruitmentment and retention. We’re generating valuable research that benefits the state’s economy and environment while also training the next generation of agricultural professionals.”
  - Bev Durgan, Dean, University of Minnesota Extension

“Farmers are always working to improve their operations and keep them environmentally and economically sustainable into future generations. When making important decisions about soil fertility and investments in inputs, it is valuable to have an independent and trusted source of information. AFREC does this well, relying on farmer input to establish research priorities that are practical and informed.”
  - Gary Wertish, President, Minnesota Farmers Union

“As a corn and soybean farmer and a crop consultant, I appreciate the ongoing soil fertility research funded by AFREC. As crop production has evolved, it is important to understand how current soil fertility practices need to change as well. It is extremely important to have a trusted, independent source to provide current and understandable best practices when making my soil fertility decisions.”
  - Gary Prescher, Minnesota Corn Research & Promotion Council

AFREC is made up of Minnesota farmers and crop advisors from each of the major agricultural groups in the state.
AFREC Investments By Topic

Nutrient Management
Helping farmers improve their nutrient use efficiency is key to producing more food with less impact on the environment.

Soil Health & Water Quality
Minimizing nitrate loss to groundwater and surface water is crucial to maintaining clean water for all Minnesotans, from private well water to the lakes, streams, and rivers that provide opportunities for fishing, boating, and swimming.

Education & Outreach
Good research is only valuable if those that can use it know about it. AFREC funds conferences and communication efforts in order to educate farmers and crop consultants about key findings.

Other
On-farm research and precision agricultural technology are two tools AFREC invests in that reap many benefits.

Timeline of Legislative Dates and Achievements

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tr>
<td>2000</td>
<td>Concerns arise about maintaining up-to-date fertilizer recommendations.</td>
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<td>2005</td>
<td>Ag Nutrient Task Force established through MN Legislature.</td>
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<td>2005</td>
<td>Task Force recommends a “check off”-type program.</td>
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<td>2005</td>
<td>Permanent funding established at $0.40/ton of fertilizer sold.</td>
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<tr>
<td>2010</td>
<td>Legislation creates AFREC without permanent funding.</td>
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<td>2010</td>
<td>FIVE YEAR MILESTONE $2.83 million invested into 59 projects.</td>
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<td>2015</td>
<td>Major legislative changes including removal of $800K cap.</td>
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<td>2015</td>
<td>TEN YEAR MILESTONE $7.4 million invested into 147 projects.</td>
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<tr>
<td>2020</td>
<td>Council authority expires June 2025.</td>
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<tr>
<td>2020</td>
<td>Permanent funding established at $0.40/ton of fertilizer sold.</td>
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<tr>
<td>2025</td>
<td>FIFTEEN YEAR MILESTONE $13.1 million invested into 246 projects.</td>
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Please see full report for legislative details.
AFREC-Funded Research Impacts

CASE STUDY 1
CORN NITROGEN RATE CALCULATOR

Fabian Fernandez,
University of Minnesota

AFREC-funded studies contribute to the Corn Nitrogen Rate Calculator, which allows farmers to input current fertilizer and corn prices and get a nitrogen fertilizer application rate that maximizes their profits. The rate is based on years of careful research from fields across Minnesota and is updated annually as new data is added. A recent economic analysis showed that the calculator might help thousands of Minnesota farmers save on fertilizer costs, which would benefit the state’s economy as well as our water and environment. Learn more at z.umn.edu/Ncalculator.

CASE STUDY 2
DRAINAGE AND SOIL HEALTH IN NORTHWEST MINNESOTA

Lindsay Pease,
University of Minnesota

Flooded fields are bad for farmers, our food supply, and the environment. This AFREC-funded study installed tile drainage on a field in northwest Minnesota to see how this major investment for farmers impacts soil health and wheat/soybean yields in the Red River Valley’s challenging climate.

CASE STUDY 3
IRRIGATION AND NITROGEN MANAGEMENT

Vasudha Sharma,
University of Minnesota

By applying less water more frequently, farmers can save on irrigation costs and keep more nitrogen in the soil for the crop to use. In a recent AFREC-funded study, this “deficit irrigation strategy” increased yields 12 bushels per acre. An economic analysis found that this strategy could boost the state’s economy by $16.5 million. The economic effects are wide-ranging, showing that what’s good for agriculture in Minnesota is good for all of us.
AFREC Crop Research

AFREC funds research projects on a variety of agricultural systems, which include crops such as:

- Corn
- Soybean
- Wheat
- Sugarbeet
- Dry beans
- Wild rice
- Alfalfa
- Sweet corn
- Peas
- Potatoes
- Rye
- Cover crops

AFREC funds education and outreach efforts aimed at helping urban gardeners and lawn caretakers better manage fertilizer, compost, and other nutrient sources. While farmers provide more than 95% of AFREC funding, numerous soil fertility research findings and recommendations are used by urban gardeners and lawn caretakers.

In-Person Events

AFREC also supports in-person events for Minnesota farmers and crop advisors to learn about AFREC-funded research. The Nitrogen Conference and Nutrient Management Conference take place each year in February. These conferences foster dialogue between producers and researchers, enhancing future research and on-farm outcomes. Since 2015, over 400 farmers, crop advisors, and other ag professionals have attended the conferences. These individuals together manage or advise over 15 million acres of cropland. Learn more at z.umn.edu/Ncon and z.umn.edu/NMcon
AFREC EDUCATION AND CONTACTS

UMN Extension Nutrient Management

AFREC supports a variety of communications and outreach work by University of Minnesota researchers, Extension educators, and communications staff. These efforts educate Minnesota farmers and crop advisors about best management practices for fertilizer, soil health, cover crops, manure, irrigation, and more.

AFREC

The Agricultural Fertilizer Research and Education Council (AFREC) is a farmer-led program to advance soil fertility research, technology development, and education.

MNsoilFertility.com/legislative

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Minnesota Crop News

z.umn.edu/NMlinks
UMN Extension Nutrient Management handout (PDF)

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