



Agricultural Fertilizer Research & Education Council

AFREC Factsheet For Legislators



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.

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

AFREC at a Glance

~\$1,000,000

raised per year for soil fertility and water quality research, technology and education.

40¢

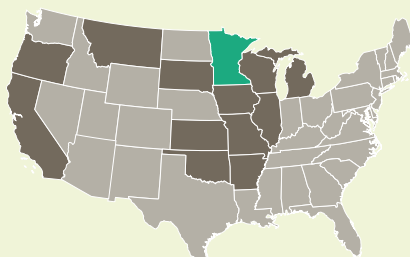
per ton fee on fertilizer sales in Minnesota funds AFREC.

5¢

per acre per year net cost to farmers for AFREC program.

\$13 MILLION

invested in soil fertility research and education in Minnesota since 2008.



Minnesota is one of 14 states with a fee on fertilizer sales to help fund soil fertility research.

246 PROJECTS FUNDED SINCE 2008

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.

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

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,

Minnesota Corn Growers Association

Minnesota Crop Production Retailers

Minnesota Grain and Feed Association

Minnesota Soybean Growers

Sugarbeet Research and Education Board

Northharvest Bean Growers Association

Minnesota Farm Bureau

Minnesota Independent Crop Consultants Association

Minnesota Farmers Union

Minnesota Area II Potato Research and Promotion Council

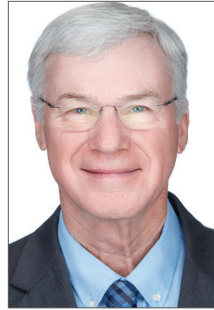
Irrigators Association of Minnesota

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 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



"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



"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



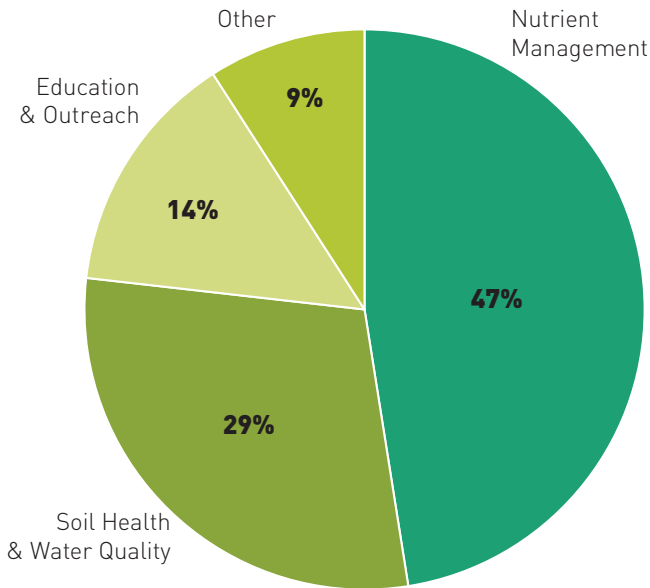
"AFREC funding has been transformational in helping our top-tier faculty conduct research and education to address nutrient management issues in Minnesota. This support is critical to faculty and graduate student recruitment and retention. We're generating valuable research that benefits the state's economy and environment while also training the next generation of agricultural professionals."

- Bev Durgan, Dean,
University of Minnesota
Extension



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.

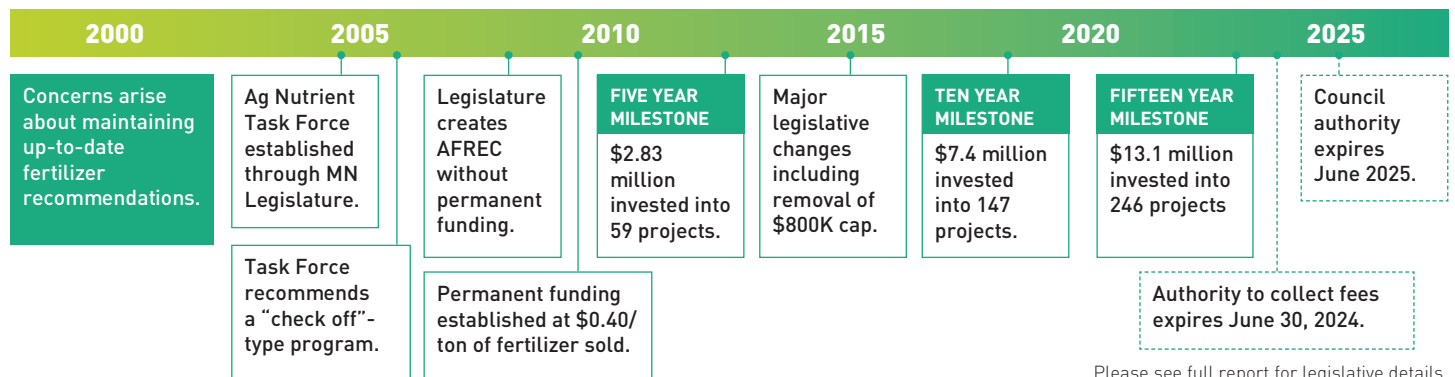


Other

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



Timeline of Legislative Dates and Achievements



Please see full report for legislative details.

AFREC-Funded Research Impacts

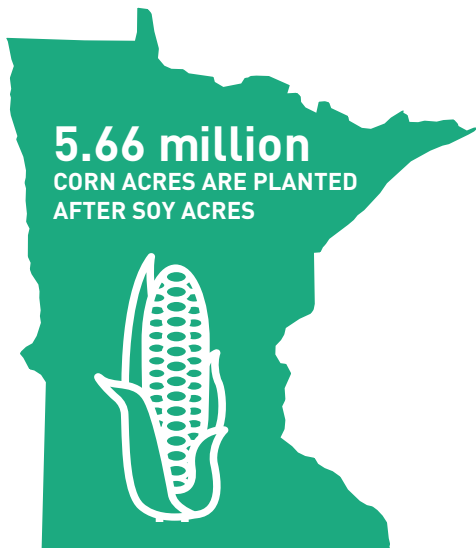
CASE STUDY 1

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.



EXAMPLE: When planting corn the year after planting soybean, using the Corn Nitrogen Rate Calculator might:

Save farmers up to
30 pounds
of nitrogen per acre

Provide a potential
benefit to Minnesota’s
overall economy of
\$83.5 million

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



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

Urban Nutrient Management

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.

How to Buy the Right Fertilizer



Your lawn, garden and flowering plants

need nutrients to grow healthy roots and leaves, and to produce flowers or fruit. Nitrogen (N), phosphorus (P) and potassium (K) are the three primary nutrients your plants require. Nitrogen promotes leafy growth, phosphorus supports root growth and fruiting, and potassium helps your plants resist disease and stay hardy.

Fertilizing your garden properly means providing enough of the nutrients your plants need without supplying too much. This helps not only your plants and your pocketbook, but in fact it's crucial for the environment. So how do you find the right product to buy?

Step 1: Test your soil.

Testing your soil will help your garden flourish. It's impossible to know how much nitrogen, phosphorus and potassium to add to your soil without first knowing what amounts are there already.

Collecting and sending a soil sample to the University of Minnesota Soil Testing Lab is easy to do, and the results arrive in two to three weeks. Scan the QR code on the back of this page for instructions.



SOIL TEST REPORT		Client Copy	
Lawn and Garden		Department of Soil, Water, and Climate Minnesota Extension Service Agricultural Experiment Station	
DE ADY LAKE POLUS MN 55401	Page: 1	Report No.: 8	
	Laboratory No.: 114	Date Received: 01/01/2007	Requested: 02/02/2007
SOIL TEST			
1S	N-P-K:	15-5-20	
INTERPRETATION CHART			
PH	5.5	4.5	5.5
	V. High		ANS
SOIL SATS			
S	25	0	10
	V. High	Satisfactory	Possible Problem
RECOMMENDATIONS FOR: Vegetable garden			

Step 2: Know your ratio.

On the front of your soil test report, you'll see your recommended N-P-K amounts expressed as a ratio. This ratio is the proportion of macronutrients recommended for your specific soil. Now that you have this information handy, you can shop for the right solution.



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.



Minnesota Crop News



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

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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