FY24-25
Clean Water Fund

DEPARTMENT OF AGRICULTURE

MINNESOTA AGRICULTURAL WATER QUALITY CERTIFICATION PROGRAM

$7 million for FY24-25

The Minnesota Agricultural Water Quality Certification Program (MAWQCP) is a first of its kind, voluntary program. It supports the implementation of conservation practices on a field by field, whole farm basis. Through its innovative and nationally recognized process of identifying and mitigating agricultural risks to water quality, the MAWQCP delivers on-farm conservation that helps protect and restore Minnesota's lakes, rivers, streams, and groundwater. The certification program partners with the United States Department of Agriculture, Minnesota's soil and water conservation districts, Minnesota state agencies, and private industry leaders, including Land O'Lakes, Inc. and Hormel, to deliver and promote the program.

Farmers and landowners who treat all risks to water quality on their operation are certified and are deemed to be in compliance with any new water quality laws or rules for ten years. Certification gives farmers and the public greater certainty about regulatory standards and assures the public Minnesota's farmers are doing their part to protect water quality. Additionally, according to three years of data from the Minnesota Farm Business Management Database, MAWQCP-certified farms have averaged higher profits than non-certified farms. The MAWQCP keeps tens of millions of pounds of soil and nutrient runoff from entering Minnesota's waters annually, involving more than 920,000 acres, and reducing greenhouse gas (GHG) emissions by over 50,000 CO2-equivalent metric tons per year.

NITRATE IN GROUNDWATER

$6 million for FY24-25

Nitrate-nitrogen (nitrate) is one of the contaminants of greatest concern for groundwater in Minnesota. In some vulnerable areas of the state a significant percentage of private wells have nitrate levels which exceed the drinking water health risk limit. The Minnesota Department of Agriculture (MDA) has developed the Nitrogen Fertilizer Management Plan and Groundwater Protection Rule to address nitrate from fertilizer in groundwater. Funding is for activities that evaluate potential sources of nitrate contamination and promote practices to reduce nitrate in groundwater.

The MDA works with counties, soil and water conservation districts, agri-businesses, University of Minnesota researchers, and individual farmers on a variety of projects to reduce nitrate in groundwater and drinking water. Projects include:

- Working with local farmers in vulnerable areas and Drinking Water Supply Management Areas around public wells to reduce nitrate losses to groundwater
- Regional efforts with the University of Minnesota Extension and local governments to promote fertilizer best management practices (BMPs), vegetative cover, precision nitrogen management, and other practices to reduce nitrate levels in vulnerable areas
- Groundwater monitoring in vulnerable areas to determine nitrate trends and the effectiveness of nitrate reduction efforts
- The refinement and use of computer modeling tools to quantify the potential benefits to groundwater quality for a wide range of agricultural practices
- Demonstration sites validating nitrogen fertilizer recommendations and water quality impacts under irrigated agriculture
- Nutrient management surveys to evaluate on-farm adoption of BMPs and other recommended practices

IRRIGATION WATER QUALITY PROTECTION

$300,000 for FY24-25

Nitrate losses from irrigation of nitrogen demanding crops (such as corn, potatoes, and edible beans) is a potential source of nitrate in groundwater, especially in areas with sandy soils. This funding provides an irrigation water quality specialist position through a contract with the University of Minnesota Extension. The water quality specialist develops guidance and provides education on irrigation and nitrogen BMPs for Minnesota irrigators. Many farmers, particularly those newly implementing irrigation or adopting new irrigation technology, benefit from increased education, training, and direct support.

AgBMP LOAN PROGRAM

$9.598 million for FY24-25

The AgBMP Loan Program provides low interest loans to individuals for BMPs that restore or protect water quality. The goal of the AgBMP Loan Program is to implement recognized management practices with proven environmental benefits.

Loans are used to fund practices that prevent, reduce, or eliminate a nonpoint source water pollution problem in rural Minnesota, whether on a farm, a residence or business, an unsewered community, or a lakeside cabin. Funded projects typically include manure management, feedlot improvements, septic system upgrades, purchase of conservation tillage equipment, erosion control structures, and the repair or relocation of some wells. Several types of projects or practices funded through this program can also benefit soil health, greenhouse gas reduction, and carbon reduction methods.

The program is administered by local governments, has very low transaction costs, and repayments fund additional projects. Additional funding would allow for more practices that help reduce, eliminate, or prevent water pollution to be funded each year as the local demand for Ag BMP loans greatly exceeds available funding.

PESTICIDE MONITORING AND ASSESSMENT

$700,000 for FY24-25

The MDA has monitored the state's groundwater and surface water resources for agricultural chemicals for more than 30 years. The purpose of the MDA's monitoring activities is to determine the presence and concentration of pesticides in Minnesota's groundwater and surface water. The MDA's water quality data is used to provide detailed information about potential pesticides of concern and water quality trends, and to evaluate the need for and effectiveness of protective actions for groundwater and surface water in Minnesota.

These funds go to the MDA Laboratory and have resulted in an increase in capability and capacity. It has allowed the MDA to increase the number of detectable pesticides in water from 44 in 2009 to 185 in 2022, increase the sensitivity of detection of certain pesticides, and increase the overall number of samples that can be analyzed each year. The increased laboratory capacity has allowed the MDA to provide cooperative pesticide monitoring and assessment with other state agencies (Minnesota Department of Health and Minnesota Pollution Control Agency) on lakes, wetlands, and public water supply systems.

TECHNICAL ASSISTANCE AND ON-FARM DEMONSTRATIONS

$3 million for FY24-25

The MDA's technical assistance helps to ensure accurate scientific information is available and used to address water quality concerns in agricultural areas of Minnesota. This funding is used to evaluate conservation practices, share information about research and new technologies, and enhance outreach and education to the agricultural community and local government partners.

Technical assistance also fills an important need for field demonstration and validation of practices. The MDA uses on-farm, edge-of-field monitoring to assess sediment and nutrient loss at the field-scale and to evaluate the effectiveness of conservation practices.

The MDA works with many partners including universities, crop consultants, soil and water conservation districts, farmers, and other state agencies. Activities include:

- Discovery Farms Minnesota
- Root River Field to Stream Partnership
- Nutrient Management Initiative
- Red River Valley Drainage Water Management Project
- Providing support to the Impaired Waters Process
- Support 4R Nutrient Stewardship

FOREVER GREEN

$6 million for FY24-25

The Forever Green Initiative (FGI) brings researchers together from multiple disciplines (plant breeding, agronomy, food science and economics) to develop new, high-value perennial and winter annual crops that preserve and enhance water quality, and to support development of new supply chains that provide profitable markets for these crops. Funding will support the FGI in areas related to crop research, implementation and supply chains, and partnership development.

Perennial crops provide continuous cover on the land, while winter annuals and cover crops grow between the time when annual crops are harvested in the fall and a new planting is established in the spring. This is the time when fields are bare and most vulnerable to erosion and nutrient loss. More vegetative cover throughout the year slows runoff and soil erosion and reduces nutrient losses providing a direct benefit to surface waters. Perennial and cover crops also prevent nitrate-nitrogen leaching to groundwater by taking up excess soil nitrogen.

The MDA administers the distribution of funds and coordinates reporting on progress, results, and outcomes. Funding directly supports the University of Minnesota Forever Green Initiative. Additional information is available at: **www.forevergreen.umn.edu**.

RESEARCH INVENTORY DATABASE

$80,000 for FY24-25

The Minnesota Water Research Digital Library (MNWRL) is a user-friendly, searchable inventory of water research relevant to Minnesota. It includes both peer reviewed articles as well as white papers and reports. The library provides one-stop access to all types of water research.

The MNWRL is available online and includes over 3,500 diverse research articles and scientific reports. Clean Water funds are used to enhance and manage the database in partnership with other agencies. Access MNWRL at: **www.mn.gov/wrl.**

PESTICIDE TESTING OF PRIVATE WELLS

$1 million for FY24-25

The primary goal of the Private Well Pesticide Sampling (PWPS) Project is to provide information to homeowners and the public related to the presence of pesticides in private drinking water wells located in geologically vulnerable areas with row crop agriculture. Over the last six years, the PWPS project has collected over 6,200 pesticide samples from private drinking water wells from counties across the state. Ongoing sampling will focus on the herbicides cyanazine and atrazine, and their degradates, as well as nitrate in vulnerable aquifers. Previous PWPS data has indicated these agricultural chemicals and nitrate represent the greatest risk to homeowners with private drinking water wells in these settings.

AGRICULTURAL RESEARCH AND EVALUATION FOR MANURE MANAGEMENT PRACTICES

$1.5 million for FY24-25

The goals of the program are to evaluate, develop, and demonstrate regional and animal-specific recommendations for manure crediting, and to develop or revise manure best management practices. Water quality benefits and greenhouse gas emission reductions can be achieved by proper crediting for the nutrient value of various types of manure. Many of the current recommendations for manure are based on research that is more than 20 years old and, in some cases, may not represent current technology and livestock management practices. There is a critical need to review and update the research and consider regional and animal manure-specific recommendations. Funding will support research and demonstration projects with the University of Minnesota.

CONSERVATION EQUIPMENT ASSISTANCE

$3.5 million for FY24-25

Individual farmers, agricultural organizations, conservation interests, and major food corporations all seek greater emphasis on soil health to improve water quality. These groups have identified that a primary obstacle to soil health is access to the specialized equipment and machinery necessary for successful adoption of soil health practices. This new program will provide grants to individuals, soil and water conservation districts, other local public entities, and collaborations to purchase equipment or items to retrofit existing equipment that has climate and water quality benefits. Items include conservation tillage equipment, cover crop seeding equipment, and costs of specialized equipment and materials to install and sustain practices.

EXPAND AG WEATHER STATION NETWORK

$3 million for FY24-25

This funding will expand the existing state weather station and soil temperature network to provide accurate local weather data across the farming areas of Minnesota. Accurate and timely weather data will help farmers optimize the timing of manure, irrigation, fertilizer and pesticide applications, and other inputs. This data will reduce the risk of fertilizer, pesticide, or manure runoff into surface waters; reduce leaching losses to groundwater from irrigation; reduce pesticide drift which can impact water quality; and, help reduce the uncertainty and risk from adopting new environmentally friendly practices to promote soil health and vegetative cover. This will result in improved surface water and groundwater quality. Other beneficial uses of the data include reducing pesticide drift to protect pollinators and use of precipitation data by the National Weather Service and municipalities to better predict flood conditions. View the existing Minnesota Ag Weather Network at: **www.mda.state.mn.us/central-minnesota-ag-weather-network**

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