# 2025 Sustainability Report

MinnesotaCorn

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# Introduction

**For Minnesota's farmers — 96% of whom manage family-owned operations — sustainability is personal.** Year after year, Minnesota corn farmers are doing more with less: producing higher yields on the same number of acres, using fewer inputs, and adopting practices that improve soil health, reduce nutrient loss, and protect water quality. At the same time, more frequent and intense extreme weather events are disrupting planting and harvest, raising insurance costs, and straining supply chain resilience. In response, the sustainability landscape is evolving — not just through policy, but through growing pressure from banks, insurers, consumers, and major grain buyers. These stakeholders are demanding greater accountability for on-farm environmental performance, often with little understanding of real-world farming conditions. Farmers are being asked to measure, report, and verify more than ever, often without clear standards, consistent metrics, or adequate support (Box 1). And all of this is happening against a backdrop of declining farm income, rising input costs, and tightening margins (Figure 1).

Sustainability is no longer niche. It is reshaping how agriculture operates, how companies manage risk, and how farmers secure their future. Businesses are pursuing sustainability to stay competitive, avoid disruptions, and build long-term resilience — driven by market shifts, climate volatility, and investor pressure.

Minnesota corn growers are no strangers to innovation. To keep advancing, they need tools that match today's challenges: clear data, flexible approaches across production systems, and meaningful investment in farmer-led solutions.

BOX 1:

### Regenerative Agriculture in the Global Agri-Food Sector

**What the 2023 data says:**

Out of the world's 79 largest agri-food companies (worth $3 Trillion):

- **50 companies (63%)** mention *regen ag* in their public strategies.
  - Of those:
    - **17** offer no formal definition.
    - **17** use their own proprietary definitions.
    - **12** align with third-party standards or frameworks.
- **4 companies** have made significant financial commitments to help farmers transition to regenerative practices.

**Why it matters:**
With "regenerative" rapidly becoming a market buzzword, the lack of consistent definitions and limited farmer support risks undermining meaningful progress.

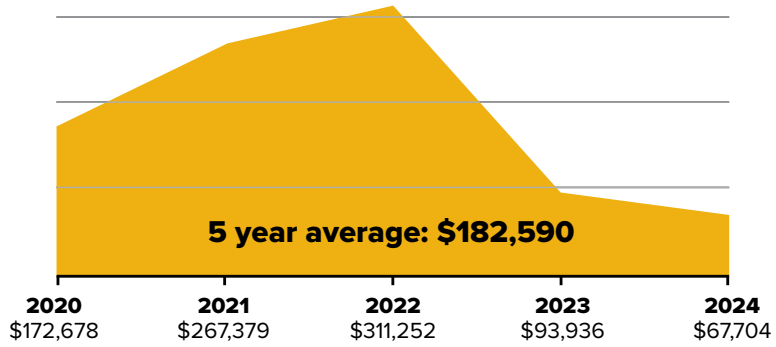
**Bottom Line:**
Sustainability commitments must be matched with clear definitions and real investment in farmers.

*Source: FAIRR Initiative, The Four Labours of Regenerative Agriculture: Paving the Way Towards Meaningful Commitments (2023).*

FIGURE 1:

### Net Farm Income Trends in Minnesota, 2020–2024

*Net farm income for Minnesota farms declined sharply from 2022 to 2024, falling well below the five-year average as farmers faced lower commodity prices, rising costs, and tighter margins.*




*Source: AgCentric, FBM State Executive Summary 2024.*


**That's where Minnesota Corn comes in.** We are committed to ensuring that sustainability efforts reflect the real-world needs of farmers — providing the resources, information, and support they need to implement practices that work for their operations, their landscapes, and their communities. We believe sustainability is a journey, grounded in three interconnected pillars:

- **People:** Strengthening rural communities, supporting global food security, and promoting a safe, healthy quality of life for all.
- **Planet:** Managing natural resources responsibly and enhancing the environment through improved farming practices.
- **Profit:** Ensuring fair returns for farmers while delivering affordable, high-quality goods to consumers.

This report highlights how these pillars guide Minnesota Corn's work, demonstrating our long-term commitment to sustainable progress. Our approach recognizes that true sustainability requires balancing economic viability, environmental health, and social well-being. And in Minnesota, corn growers are showing what that future can look like — rooted in stewardship, resilience, and a legacy worth protecting.

***Read on to learn more.***

*"Minnesota's corn farmers have a long history of responsibly stewarding natural resources and adopting practices that increase on-farm productivity and efficiency. We're proud of this commitment to innovation and will continue to invest in research and programming that ensures a prosperous, sustainable future for our families, communities, and all Minnesotans."*

Wes Beck
**MCGA President**

John Mages
**MCR&PC Chair**

# People

The People Pillar focuses on empowering rural communities, advancing agricultural literacy, developing future leaders, and strengthening public trust in farming. Through long-standing partnerships and targeted investments, Minnesota Corn supports the people and organizations at the heart of a sustainable and resilient food system.

## Building Agricultural Literacy and Leadership

Early exposure to agriculture helps young people understand where their food comes from, explore career pathways, and make informed decisions as future consumers, professionals, and leaders. Minnesota Corn invests in hands-on learning, classroom instruction, and leadership development programs that engage students, educators, and emerging agricultural professionals across the state.

Over
**$1.5 million**
invested in education programs and sponsorships since 2021

Over
**160,000**
student experiences supported in 2024

### Inspiring K-12 Students

Minnesota Corn partners with education leaders to spark curiosity and deepen agricultural understanding both inside and outside the classroom.

- ***Minnesota Agriculture in the Classroom (MAITC)*** has received Minnesota Corn's support for more than 35 years, helping expand access to free ag-themed curricula, classroom kits, and teacher training in all 87 counties. In 2024, MAITC reached more than 149,000 students and hundreds of educators.
- ***Twin Cities Road Crew***, in partnership with Minnesota Corn, brings high-energy, corn-themed assemblies to elementary schools across the metro area. Since 2014, it has reached over 81,000 students and 3,270 educators, with digital content reaching another 145,000 viewers.
- ***Minnesota 4-H***, the state's largest youth development organization, engages more than 40,000 young people annually. With Minnesota Corn's sustained support, 4-H has expanded its plant and soil science curriculum, offering firsthand learning through crop trials, soil testing, and explorations of agronomy and food systems.

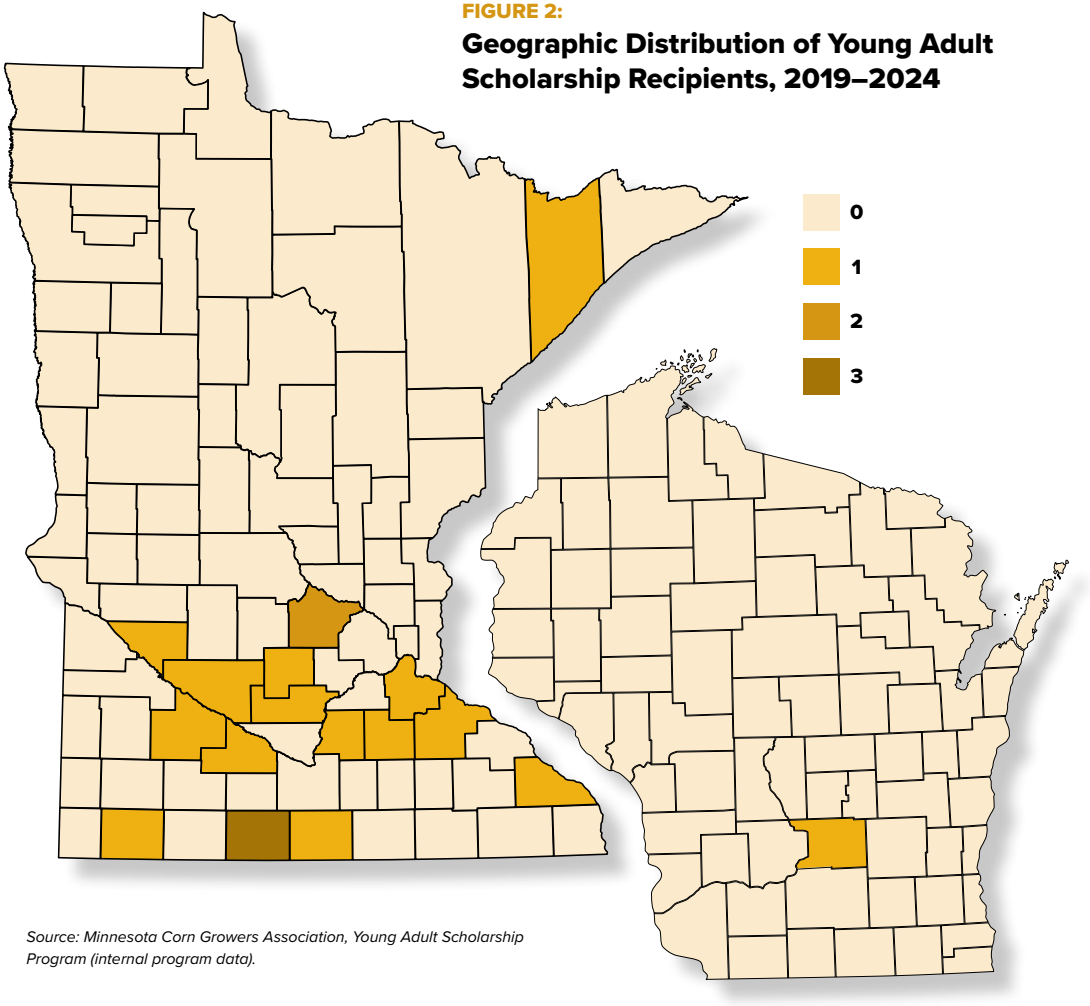
### Cultivating Future Leaders

A resilient food system depends on informed, capable leaders who can champion agriculture and guide rural communities forward. Minnesota Corn invests in leadership development at every stage—from high school to college and beyond.

- ***High school:*** Minnesota Corn sponsors the annual FFA State Convention and supports officer training programs. Statewide, FFA reaches nearly 15,000 students across 210 chapters, building agricultural knowledge, leadership, and career readiness.
- ***College:*** Minnesota Corn awards four $5,000 Young Adult Scholarships annually. Since 2019, $100,000 has been invested to support the next generation of ag professionals (Figure 2).
- ***Established leaders:*** The Minnesota Agriculture and Rural Leadership (MARL) program, a two-year intensive program through Southwest Minnesota State University, has graduated 382 alumni, including 199 farmers. In 2024, 23 participants completed the program, and 30 began their leadership journey. Minnesota Corn has supported this program since its launch in 2000.

FIGURE 2:

**Geographic Distribution of Young Adult Scholarship Recipients, 2019–2024**




*Source: Minnesota Corn Growers Association, Young Adult Scholarship Program (internal program data).*

## Strengthening Rural Communities and Consumer Connections

Over
**$3.4 million**
invested in outreach and sponsorships since 2021

Over
**1.5 million**
Minnesotans reached in 2024

With fewer Minnesotans directly involved in farming, Minnesota Corn bridges rural-urban divides through experiences that build curiosity, conversation, and shared understanding around food and farming.

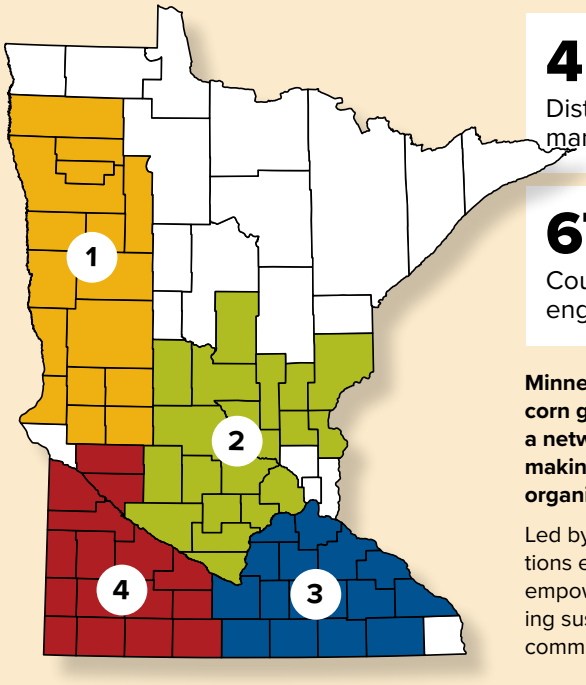
## Member Engagement and Support

County Corn Grower Associations are the backbone of Minnesota Corn.

- ***Grassroots Strength:*** Across 67 counties, 52 local Corn Grower Associations—representing more than 6,500 members—host 300+ events each year, from fairs and field days to clean fuel promotions and career days. Supported by Minnesota Corn and the Research & Promotion Council, these activities connect farmers with their communities, expand market awareness, and strengthen corn's role in Minnesota's economy and environment (Box 2).
- ***Federal Advocacy:*** The Minnesota Corn Growers Association (MCGA) submitted nearly 10 comment responses and letters of support representing members on national policy issues and to secure funding for projects that improve infrastructure, expand market access, and reduce barriers for farmers. Key topics included insecticides, wetland banking, biofuels, carbon intensity standards, and sustainable aviation fuel incentives—ensuring farmer perspectives shape federal decision-making.
- ***State Advocacy:*** MCGA advanced farmer priorities through legislative testimony, agency comments, and letters of support. Efforts focused on practical solutions for corn utilization such as ethanol and sustainable aviation fuel, efficient nitrogen management, property tax relief, treated seed disposal, and conservation funding, helping farmers maintain flexibility, protect their investments, and implement conservation practices that work on their farms.

BOX 2:

### County Corn Grower Associations: Local Leadership in Action




**4**
District field managers

**52**
County associations

**67**
Counties engaged

**6,500+**
County members

**Minnesota Corn is one of only two state-level corn growers associations in the nation with a network of county-level organizations—making it one of the largest grassroots farm organizations in the country.**

Led by elected farmer boards, local associations ensure farmers are visible, engaged, and empowered—celebrating agriculture, advancing sustainability, and strengthening rural communities one county at a time.

## Connecting with Consumers and Families

Minnesota Corn partners with trusted organizations to engage Minnesotans of all ages in learning about food, farming, and sustainability (Box 3).

- ***CommonGround Minnesota***, supported by Minnesota Corn, is a volunteer initiative led by women farmers. Through in-person events, dinners, and digital storytelling, the program engaged more than 230 urban and suburban residents in 2024, sparking personal conversations that build trust and understanding.
- ***Farmamerica***, Minnesota's agricultural interpretive center, welcomes more than 12,000 annual visitors—including 2,000+ students—for field trips, guided tours, and interactive exhibits. Minnesota Corn's support helps bring to life the innovation and evolution of farming in Minnesota.
- ***Sports Sponsorships:*** Minnesota Corn proudly sponsors the Gophers, Saints, and Twins to extend awareness of corn farming across the state. These partnerships help grow recognition, relevance, and pride in Minnesota-grown corn among diverse audiences, reaching over 1 million sports fans in 2024.

**BOX 3:**

### Connecting Families to Farming at Farm at the Arb

*Farm at the Arb, located at the Minnesota Landscape Arboretum, is a working farm exhibit that reaches over 700,000 annual visitors. With Minnesota Corn's support, the exhibit offers direct experiences and seasonal programming, helping families connect the dots between farming and their daily lives.*

# Helping Farmers Innovate, Improve & Succeed

Minnesota Corn invests in farmer-led research, education, and innovation to support decision-making, more efficient nutrient management, healthier soils, and long-term profitability. Since 2008, Minnesota Corn has invested more than $7 million in farmer outreach and education to ensure farmers have the tools and knowledge to succeed.

## Connecting Farmers with Research

Minnesota Corn partners with University of Minnesota Extension to give farmers direct access to the latest research, practical tools, and peer-to-peer learning opportunities. These efforts help farmers improve profitability while protecting soil and water resources.

### *Nitrogen Smart Program*

For over a decade, Nitrogen Smart, developed by University of Minnesota Extension, has equipped farmers with practical, research-based tools to manage nitrogen more effectively. Through workshops, online courses, advanced modules, and podcasts, farmers learn to tailor nutrient management practices to boost profitability and protect water quality. With Minnesota Corn's support, the program remains free and accessible to all farmers, delivering trusted expertise to strengthen their operations and long-term sustainability.

## Nitrogen Smart:

*Proven Impact for Minnesota Farmers*

**$1 million**
invested in farmer education over the past 10 years

**1,200+**
farmers managing more than one million acres

**75%+**
Changed at least one nitrogen management practice

**$3,000**
Estimated cost savings and productivity gains per farmer based on attendee surveys

### *Grower Education Events*

For nearly 20 years, Minnesota Corn has sponsored University of Minnesota Extension events that connect farmers to research and peer learning including:

- ***Soil Management Summit:*** Minnesota's longest-running farmer-focused event on soil health and tillage (19th year).
- ***Nitrogen Management Conference:*** Highlights advances in nitrogen use efficiency and water quality (10th year).
- ***Nutrient Management Conference:*** Brings together farmers, advisers, and researchers to explore innovations in nutrient management, soil health, and climate adaptation (16th year).

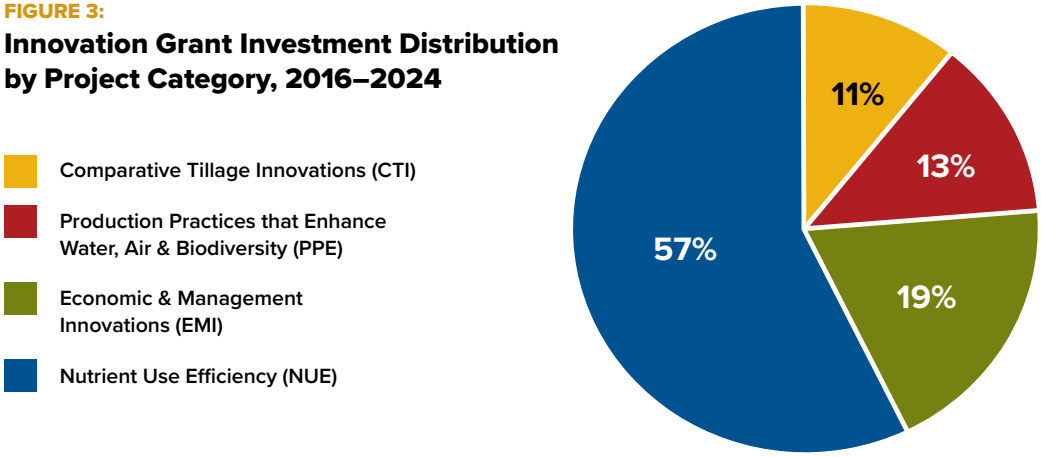
Since 2009, these events have engaged more than 6,000 participants, helping farmers adopt practices that reduce inputs, improve profitability, and safeguard the environment. Post-conference surveys show that 100% of farmer attendees agree that what they learn at these conferences helps them make better decisions to protect the environment, and they also view the research funding behind these events as critical for generating the actionable insights they rely on.

## Investing in Farmer-Led Solutions

As the only farmer-led research initiative of its kind in Minnesota, the Innovation Grant Program invests directly in farmers to turn on-farm ingenuity into practical, science-backed solutions. Since 2016, over $1 million has been invested through 100+ grants advancing nutrient efficiency, tillage innovation, farm economics, and production practices that enhance soil, water, air, and biodiversity (Figure 3). By connecting farmer innovators with university researchers and local technical service providers, the program accelerates practice adoption, fosters experimentation, and delivers actionable, measurable outcomes that address real-world challenges on Minnesota farms.

**FIGURE 3:**

**Innovation Grant Investment Distribution by Project Category, 2016–2024**




*Source: Minnesota Corn Growers Association, Innovation Grant Program (internal program spending data).*

**Over $1 Million Invested in Farmer-Led Innovation**

### *Innovation Grant Projects – Summary and Key Outcomes by Investment Category*

#### Nutrient Use Efficiency

Projects test nitrogen, phosphorus, and sulfur management innovations—integrating manure, precision technology, and biologicals to boost profitability and environmental performance.

- Refined decision-support tools and University of Minnesota state nitrogen guidelines with on-farm data.
- Reduced fertilizer inputs, increasing profitability by 15% with variable-rate N applications in manured fields.
- Identified site-specific yield and profit gains from precision sulfur management.

#### Comparative Tillage Innovations

Projects compare tillage systems to assess soil health, economic savings, and erosion reduction. Sites include the 60-acre Wilkin County Soil Health Demo Site in Breckenridge, MN (Box 4).

- Documented improved soil structure and infiltration under strip-till.
- Informed statewide tillage recommendations and showcased sustainable practices at annual field days.

### Economic & Management Innovations

Projects evaluate new technologies and management tools, from planter calibration systems to in-furrow compost extracts, to improve decision support and profitability.

- Validated technologies that enhance planting accuracy and yield uniformity.
- Demonstrated comparable yields and up to $70/acre savings when replacing commercial fertilizer with manure.
- Leveraged local results to secure additional university and industry research funding.

### Production Practices that Enhance Water, Air, and Biodiversity

Projects investigate drainage water improvements, cover crop treatments, and biodiversity enhancements to reduce nutrient losses and deliver environmental outcomes.

- Achieved higher soil microbial activity and potential $4/acre N savings in a six-year cover crop study across a corn–soybean–wheat–sunflower rotation.
- Demonstrated up to 40% nitrate reduction using drainage water recycling systems.
- Built partnerships to scale successful practices and cover crop strategies.

**BOX 4:**

### Five Years of On-Farm Tillage Comparisons

*At the 60-acre Wilkin County Soil Health Demonstration Site, farmer Vance Johnson—working with the Wilkin Soil and Water Conservation District (SWCD), USDA Natural Resources Conservation Service (NRCS), Minnesota Department of Agriculture (MDA), and the University of Minnesota—demonstrates how transitioning from conventional tillage to strip-till and no-till systems improves soil health, nutrient cycling, and profitability. Supported in part through Minnesota Corn's Innovation Grant Program, this long-term comparison site provides an opportunity to evaluate tillage systems under real-world conditions. Annual field days give farmers, agronomists, and agency partners the chance to see these practices in action, building confidence to implement them on their own farms.*

Across categories, Innovation Grant projects have helped farmers improve nutrient management by reducing fertilizer use while increasing profitability, advance tillage practices to enhance soil health and inform statewide recommendations, test new technologies and management tools that generate cost savings, and enhance water, air, and biodiversity through cover crops, drainage improvements, and sustainable practices.

Since 2021, Minnesota Corn's sponsorships, education, and outreach activities have reached over 4 million Minnesotans, including more than *160,000 students, thousands of farmers, hundreds of emerging leaders, and countless community members in 2024 alone.* Minnesota Corn's People initiatives focus on building agricultural literacy, developing future leaders, strengthening rural communities, and supporting farmers through outreach and innovation. Through partnerships, targeted programs, and farmer-driven solutions, the organization empowers students, educators, farmers, and communities to advance sustainable agriculture, increase productivity, and protect natural resources. By combining education, leadership development, community engagement, and on-farm innovation, Minnesota Corn helps ensure a resilient, prosperous, and trusted agricultural system across the state.

# Planet

Minnesota Corn advances science-based, practical farming systems that protect natural resources and enhance environmental stewardship. The Planet Pillar highlights these investments and documents the progress and impact of practice adoption across the state.

## Minnesota's Environmental Goals and the Role of Agriculture

Sustainable farming practices that improve water quality, build climate resilience and support farm profitability are essential to meeting the state's environmental goals. Minnesota promotes water quality through a combination of legislation, regulation, and voluntary programs (Box 6, next page). Multiple agencies set goals, enforce standards, and provide funding to help farmers adopt best management practices (BMPs). First launched in 2014 and undergoing a comprehensive update in 2025, the Minnesota Nutrient Reduction Strategy sets short- and long-term goals to reduce nitrogen and phosphorus pollution from agriculture, wastewater, and urban sources.

Agriculture is also a major focus of the state's climate policy. The sector contributes an estimated 25% of Minnesota's greenhouse gas emissions, primarily from fertilizer use, livestock operations, and drained peat soils (Box 5). In 2019, Governor Walz established the Climate Change Subcabinet and the Advisory Council on Climate Change to coordinate state action and guide policy development. Together, these entities oversee the creation and ongoing updates of the Climate Action Framework. The Framework, released in 2022, sets a statewide goal of net-zero emissions by 2050 and emphasizes voluntary, incentive-based approaches to support climate-smart farming. In 2023, the Legislature updated Minnesota's emission-reduction goals to align with the Framework, reinforce accountability, and strengthen cross-agency collaboration. Recent statewide planning efforts—including the Clean Water Council's 2024–2028 Strategic Plan and the Minnesota Soil Health Action Framework—further unify water quality, climate, and soil health priorities across agricultural programs.

**BOX 5:**

### Agricultural Greenhouse Gases and Climate-Smart Solutions

**Nitrous Oxide ($N_2O$):** Released mainly from nitrogen fertilizers, manure, and legumes added to soils, $N_2O$ is 273 times more potent than $CO_2$ and is the largest source of agricultural emissions in Minnesota.

**Methane ($CH_4$):** Produced primarily by livestock digestion and manure storage, $CH_4$ has over 25 times the warming potential of $CO_2$ and is the second-largest source of agricultural emissions in the state.

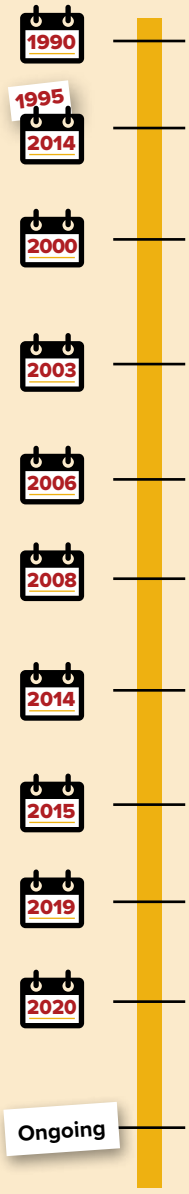
**Carbon Dioxide ($CO_2$):** Emitted from fuel use and soil disturbance, $CO_2$ is the smallest source of agricultural emissions in Minnesota. Crops also absorb $CO_2$ through photosynthesis and store a portion as soil organic carbon (SOC).

**Climate-Smart Practices:** Reduced tillage, cover crops, and improved nutrient and manure management are key practices that build and protect SOC. This stored carbon offsets $N_2O$ and $CH_4$ emissions, making healthy soils essential for reducing agricultural emissions, improving water quality, and achieving Minnesota's environmental goals.

BOX 6:

## Three Decades of Agricultural Water Quality Policy Development and Stewardship in Minnesota

Minnesota has a long history of initiatives to protect water quality, including being one of the first states to adopt a Groundwater Protection Rule. Minnesota Corn actively participated in developing the state's Nitrogen Fertilizer Management Plan and Groundwater Protection Rule and continues to support these efforts through advocacy, research, and farmer-driven solutions. In 2015, a Minnesota Department of Agriculture survey found that 72% of farmers statewide—and up to 87% in southeast Minnesota—were already applying nitrogen in the spring, years before the Groundwater Protection Rule was finalized, demonstrating their commitment to stewardship and economic efficiency.




**Minnesota Groundwater Protection Act –** Established the goal of maintaining groundwater in its natural, unpolluted state where prevention is practicable.

**Nitrogen Fertilizer Management Plan –** Developed by the Minnesota Department of Agriculture (MDA) and updated through a multi-year public process to promote responsible nitrogen use and reduce nitrate contamination in groundwater.

**Minnesota Feedlot Rule Finalized —** Established comprehensive state standards for feedlot registration, permitting, and manure management, requiring National Pollution Discharge Elimination System (NPDES) and State Disposal System (SDS) permits for operations with 1,000 animal units or more to protect surface and groundwater quality.

**Feedlot Rule Amendments Adopted —** Updated Minnesota's feedlot program to align with new federal Concentrated Animal Feedlot Operation (CAFO) regulations, refining permit thresholds, environmental review requirements, and compliance standards for large livestock operations.

**Clean Water Legacy Act —** Authorized use of Clean Water Fund dollars for water protection and restoration, laying the groundwork for watershed-based planning (WRAPS) and expanded conservation support on agricultural lands.

**Legacy Amendment Passed —** Voters approved a constitutional amendment creating the Clean Water Fund—a major, ongoing source of funding for agricultural water quality and habitat initiatives.

**Minnesota Clean Water Roadmap & Nutrient Reduction Strategy Released —** Established statewide goals and coordinated actions to reduce nutrient pollution in lakes, rivers, and groundwater, setting benchmarks for agricultural and watershed improvements.

**Minnesota Buffer Law Enacted —** Required permanent vegetative buffers along public waters and public drainage ditches to reduce nutrient and sediment runoff from adjacent farmland.

**Groundwater Protection Rule Finalized —** Restricted fall and winter application of nitrogen fertilizer on vulnerable soils and required mitigation in high-nitrate areas to protect drinking water quality.

**Nutrient Reduction Strategy Progress Report —** Assessed statewide progress toward phosphorus and nitrogen reduction goals, identified priority watersheds, and directed resources where improvements can deliver the greatest benefits.

**TMDL, WRAPS, & NRS Updates —** Led by the Minnesota Pollution Control Agency (MPCA) and partner agencies under the Clean Water Act and Clean Water Legacy Act to set pollution limits (TMDLs), implement Watershed Restoration and Protection Strategies (WRAPS), and update Minnesota's Nutrient Reduction Strategy (NRS) to track progress and guide future clean-water actions.

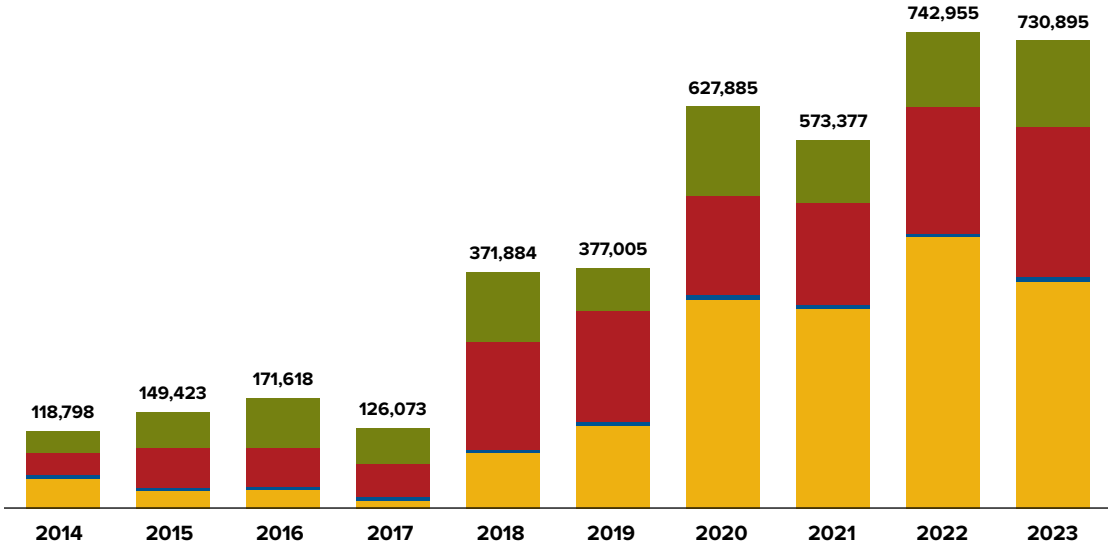
*This timeline highlights key milestones in Minnesota's agricultural water quality policy and regulatory frameworks. It is not an exhaustive list of all rulemaking or program actions but represents major initiatives shaping the state's approach to agricultural water quality protection.*

## Tracking Progress

Minnesota farmers are steadily adopting BMPs that improve water quality, reduce emissions, and build climate resilience. Practices such as cover crops, diversified rotations, reduced tillage, nutrient management, and controlled drainage help farmers improve soil health, enhance water management, and increase productivity. Since 2014, new conservation practices have been implemented on more than four million acres, about 18% of Minnesota cropland—supported by state and federal financial assistance programs (Figure 4). This estimate is conservative, as it does not include additional practices adopted without government assistance.

**FIGURE 4:**

**New Acres of Conservation Practices Adopted Each Year Through State and Federal Programs in Minnesota by Practice Category, 2014–2023**




**Living cover (900,333 acres total) –** Practices that reduce nutrient and soil loss by keeping plants growing continuously, including the Fall and Spring months. Common practices include cover crops and conservation cover.

**Cropland erosion control (1,303,770 acres total) –** Designed to reduce runoff and soil losses. This group consists primarily of farming practices that leave crop residue on the surface or structural practices that reduce or capture runoff and eroded soil.

**Drainage water retention and treatment (34,261 acres total) –** Practices designed to slow down waters leaving tile-drained landscapes or otherwise treat tile-waters for nutrient removal prior to entering streams. Wetland restoration and controlled drainage management are the most common practices, but other emerging practices include saturated buffers and bioreactors.

**Nutrient management (1,751,549 acres total) –** Managing the amount, form, placement, and timing of nutrient and soil amendments such that nutrients are used most efficiently by the crops, at the same time minimizing leaching and runoff to surface and ground water.

*Source: Minnesota Pollution Control Agency, Statewide Best Management Practice Adoption Summary: Minnesota Nutrient Reduction Strategy BMP Dashboard (MPCA database).*

Despite this progress, demand for conservation funding far outpaces available resources (Box 7). In 2021, the Minnesota Natural Resources Conservation Service (NRCS), the Minnesota Board of Water and Soil Resources (BWSR), and local Soil and Water Conservation Districts invested over $228 million in conservation programs statewide. In 2023, combined federal and state investments—tracked via the Minnesota Pollution Control Agency's spending-for-implementation database, which summarizes clean water practices funded by state and federal grant and loan programs—totaled more than $300 million. However, meeting state environmental goals will require an estimated $700–$850 million annually—more than triple current funding—for farmers to adopt and maintain these practices. **To sustain and accelerate progress, Minnesota will need continued and expanded funding that fast-tracks on-farm practice implementation, prioritizes farmer access, and minimizes administrative overhead—ensuring more dollars deliver real results in the field.**

State programs such as the Minnesota Agricultural Water Quality Certification Program (MAWQCP) and Soil Health Financial Assistance Grants show how farmer-focused investments drive measurable environmental improvements. MAWQCP, now more than a decade old, provides certified farmers with ten years of regulatory certainty—reducing risk and supporting long-term planning. As of December 2024, more than 1,500 farms managing over 1 million acres have been certified, implementing nearly 3,000 conservation practices. These actions prevent an estimated 149,811 tons of soil loss, keep 62,236 pounds of phosphorus out of waterways, reduce 54,816 tons of $CO_2e$ emissions, and cut nitrogen loss by up to 45% annually demonstrating how targeted, flexible support empowers farmers to lead Minnesota's progress toward cleaner water and healthier soils.

**BOX 7:**

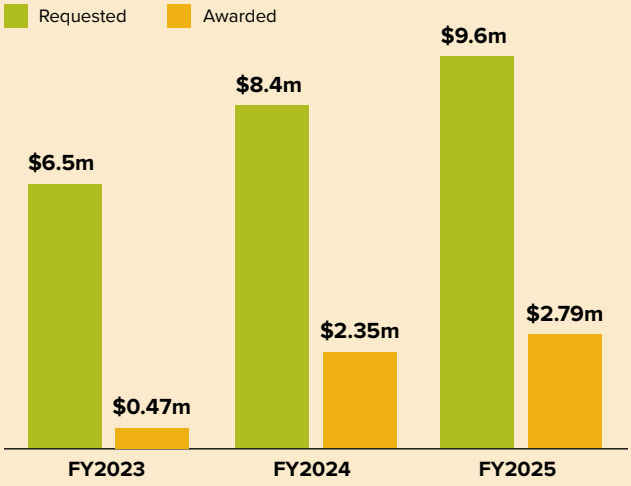
### Soil Health Financial Assistance Grants: A Solution Ready to Scale

**How It Works:**

- Invests directly in farmers to overcome barriers and achieve measurable benefits aligned with Minnesota's Nutrient Reduction Strategy.
- Funds equipment, technology, and technical assistance that help move soil health practices from small trials to whole-farm adoption.

**Impact & Opportunity:**
Farmer demand continuously outpaces available funding by more than 3-to-1, demonstrating a clear need for expanded and sustained state investment to support implementation and deliver long-term environmental outcomes.

**Funding requests vs. awards**




*Source: Minnesota Department of Agriculture, Protecting Drinking Water: Program Update – October 2025*

# The Path Forward

Collaboration among farmers, researchers, policymakers, communities, and public and private partners is key to tailoring BMPs to Minnesota's diverse soils and landscapes, ensuring more timely and impactful results. Sustained investment and scaling voluntary, science-based practices are essential for protecting water (Box 8), reducing emissions, and building resilient landscapes that benefit agriculture, communities, and the environment.

## Production and Environmental Stewardship | Primary Research Program

Since 2008, Minnesota Corn has invested more than $12 million in over 60 research projects with the University of Minnesota, USDA-Agriculture Research Service, and other scientific partners (Figure 5, page 21). This long-term, data-driven research delivers the information farmers need to increase productivity, improve nutrient efficiency, and protect soil and water. By focusing on six priority areas—water quality, soil fertility, agronomy & genetics, erosion, air quality, and green ammonia—Minnesota Corn's Production and Environmental Stewardship investments are generating the science that drives measurable environmental gains and keeps Minnesota farms competitive and resilient for the future.

**BOX 8:**

### Addressing Nitrates in Southeast Minnesota

Nitrate management has drawn heightened attention in southeast Minnesota. In 2024, the Midwest EPA responded to an environmental group petition resulting in increased calls for action from the Regional EPA administrator.

In 2024, MCGA supported targeted state budget funding for SE Minnesota, including:

- **$1,000,000** for continued research and demonstration of nitrogen BMPs
- **$3,000,000** for the AgBMP Loan Program
- **$2,790,000** for well testing, inventory, and education
- **$2,000,000** for a continuous nitrate monitoring system
- **$1,000,000** for easements around groundwater supply areas
- **$2,800,000** for home water treatment systems
- **$495,000** for the Soil Health Financial Assistance Program

### *Summary and Key Outcomes by Investment Category*

#### Water Quality

Representing Minnesota Corn's largest research investment, projects in this category investigate nutrient movement, drainage impacts, and conservation practice effectiveness from field to watershed scales.

- Reduced nitrate loss by up to 40% with bioreactors, drainage water recycling, and vegetative buffers
- Developed and validated conservation drainage practices that protected yield and water quality
- Expanded field-scale monitoring to inform statewide conservation programs (Box 9)

### Soil Fertility

Investments in this category focus on improving nutrient recommendations, understanding soil-crop dynamics, and optimizing nutrient use efficiencies under varying field conditions.

- Updated statewide corn fertilizer guidelines using multi-year field data and regional calibration studies
- Achieved 10–20% nitrogen reductions without yield loss through optimized nitrogen use efficiency
- Advanced precision tools and slow-release fertilizer technologies to enhance nutrient uptake

### Agronomy & Plant Genetics

Investments in this category focused on advancing hybrid performance, strengthening crop resilience, and improving agronomic practices that support long-term productivity and sustainability.

- Developed improved tillage, residue, and cover crop strategies for soil health
- Advanced breeding and phenomics tools for better hybrid performance
- Expanded researcher–farmer collaboration for practical, field-scale testing and adoption

### Streambank and Ravine Erosion

Erosion research has strengthened strategies to reduce sediment and nutrient loss by improving understanding of streambank dynamics, ravine stabilization, and watershed-scale sediment transport.

- Quantified sediment and nutrient loss pathways from agricultural watersheds to major river basins
- Informed sediment and phosphorus reduction strategies, including model development and monitoring used by state and federal conservation programs

### Air Quality and Climate

Air quality and climate research has improved understanding of greenhouse gas emissions and supported strategies that advance climate-smart farming.

- Quantified greenhouse gas emissions and nitrogen cycling across management systems
- Improved understanding of seasonal emission mitigation strategies

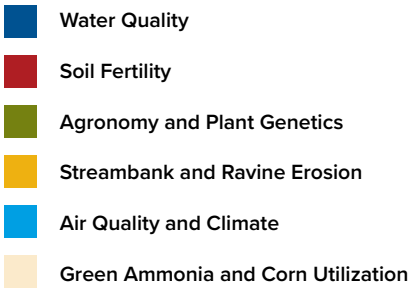
### Green Ammonia and Corn Utilization

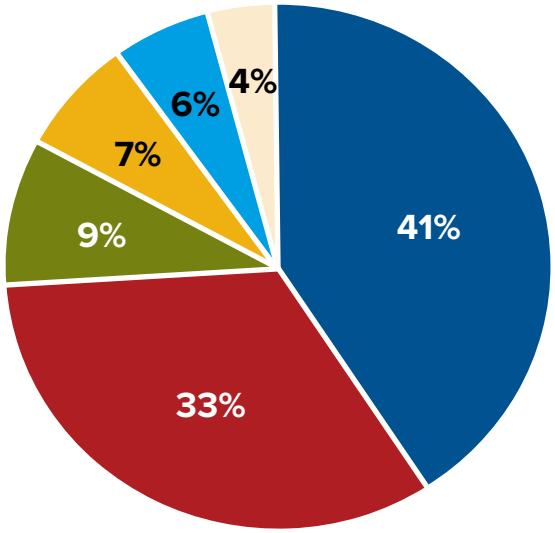
Green ammonia and corn utilization research has expanded new uses and product opportunities that strengthen Minnesota's corn economy and support sustainable innovation.

- Demonstrated feasibility of renewable ammonia production from wind energy
- Explored novel bioproducts and slow-release fertilizers derived from corn and renewable feedstocks

FIGURE 5:

**Production and Environmental Stewardship Investment Distribution by Project Category, 2008–2024**




*Source: Minnesota Corn, Production and Environmental Stewardship Program (internal program spending data).*

**Over $12 Million Invested in Primary Research**

BOX 9:

## Discovery Farms Minnesota: Turning On-Farm Data into Water Quality Solutions

*By combining farmer leadership, scientific rigor, and outreach, Discovery Farms Minnesota delivers practical, profitable solutions for cleaner water and more resilient agriculture statewide. Featured above: a cover crop evaluation project in Redwood County, Minnesota.*

For more than 15 years, Discovery Farms Minnesota has advanced farmer-driven, on-farm research to better understand how agricultural management affects water quality. The program is coordinated by the Minnesota Agricultural Water Resource Center (MAWRC) in partnership with the Minnesota Department of Agriculture (MDA) and University of Minnesota Extension, and is supported in part by Minnesota Corn, which has invested over $4.5 million since 2008 to expand monitoring, applied research, and outreach in Minnesota.

As part of a four-state Discovery Farms Network (Minnesota, Wisconsin, Arkansas, and Vermont), the program collects real-time, site-specific hydrologic data to provide farmers with credible insights for improving water and nutrient management.

With more than 50 site-years of edge-of-field monitoring, Discovery Farms Minnesota has advanced understanding of nutrient transport mechanisms and sediment dynamics across diverse soils, climates, and cropping systems. Findings show how runoff and drainage influence nutrient movement, helping farmers optimize fertilizer timing, rate, and placement to improve efficiency and protect water resources.

On-farm studies comparing cover crops and reduced tillage with conventional systems demonstrate opportunities to reduce nutrient losses while maintaining yields and building resilience to extreme weather. Results are shared directly with farmers, agronomists, and conservation professionals through field days, webinars, and local partnerships, empowering farmers to make data-driven decisions that enhance both their operations and Minnesota's water quality.

## On-farm Sustainability Analysis

Minnesota Corn farmer leaders participated in on-farm sustainability assessments from 2022 through 2024 to establish a baseline of environmental performance and evaluate how their current management systems benefit soil, water, and climate. Each year, assessments covered approximately 33,000–39,000 acres across 485–539 fields, providing a detailed snapshot of soil health, water quality, and greenhouse gas (GHG) emissions for each field. Annual variations in total acres and practices primarily reflect differences in the mix of participating farms rather than major shifts in management or practice adoption. Reductions in soil erosion, nutrient loss, and GHG emissions were estimated by comparing modeled results from current practices with conventional management systems without cover crops (Box 10).

BOX 10:

### How Environmental Outcomes Were Estimated

Environmental outcomes were quantified using science-based models developed by the United States Department of Agriculture (USDA), each designed to estimate specific components of soil and water processes:

- **Revised Universal Soil Loss Equation, Version 2 (RUSLE2)** – estimates soil erosion from water
- **Wind Erosion Prediction System (WEPS)** – estimates soil erosion from wind
- **Nutrient Tracking Tool (NTT)** – models nitrogen and phosphorus movement
- **CarbOn Management and Emissions Tool (COMET-Farm)** – estimates soil greenhouse gas emissions and soil carbon storage resulting from management

These USDA tools represent industry standards for estimating environmental benefits. Together, they provide a well-documented, data-driven approach for evaluating sustainability performance and identifying opportunities for continued improvement.

### *Growing Season Conditions*

Minnesota's 2022–2024 growing seasons demonstrated how rapidly changing weather patterns impact agriculture. The three years spanned extreme drought to record-setting rainfall, underscoring the vulnerability of cropping systems to hydrological shifts—and the critical role of conservation practices in maintaining soil structure, reducing erosion, and enhancing resilience.

- **2022:** The 8th wettest spring statewide was followed by one of the driest summers on record, with rainfall deficits up to 12 inches in southern and central Minnesota. Despite planting delays and mid-season crop stress, dry fall conditions allowed for a quick harvest.
- **2023:** Persistent precipitation deficits of 6–12 inches placed many counties across the state in the driest 5–20% of historical records. A snowy, wet early spring again delayed planting, followed by a rapid onset of drought that stressed crops and depleted soil moisture.
- **2024:** Ranked among the wettest 5–10% of years on record, with 6–12 inches of precipitation surpluses from March through June. June was both the fourth-wettest June and fifth-wettest month ever recorded statewide. While excess moisture delayed planting and increased disease pressure, improved late-season weather enabled harvest progress ahead of the state average.

### Summary of Practices Implemented

Across the three modeled years, participating farms consistently demonstrated strong conservation engagement and above-average adoption of soil health and nutrient management practices. Corn and soybeans were the dominant crops, with smaller shares of corn silage, hay, small grains, and specialty crops. A full summary of practices implemented each year is provided in Table 1.

TABLE 1:

## Annual Practice Implementation Across Participating Minnesota Farms, 2022–2024, with State and National Benchmarks

*Summary of tillage, cover crops, soil testing, nitrogen management, manure application, and crop yields from 2022–2024, presented alongside Minnesota and national benchmark averages.*

| Practice | 2022 | 2023 | 2024 | Minnesota Avg (2022) | National Avg (2022) |
|---|---|---|---|---|---|
| **Tillage (%)** | | | | | |
| No-till | 12 | 14 | 12 | 6 | 28 |
| Reduced tillage | 37 | 35 | 59 | 37 | 25 |
| Conventional | 50 | 50 | 28 | 44 | 19 |
| **Cover cops (%)** | | | | | |
| | 23 | 22 | 28 | 4 | 5 |
| **Soil testing (%)** | | | | | |
| | 57 | 67 | 82 | – | – |
| **Nitrogen (lbs/ac, timing of % applied, and % of N applied with stabilizer/inhibitor)** | | | | | |
| Average N rate | 160 | 148 | 137 | 153 (2019) | – |
| Pre-plant | 36 | 44 | 48 | – | – |
| Starter | 10 | 5 | 7 | – | – |
| In-season | 26 | 32 | 29 | – | – |
| Post-harvest | 28 | 19 | 16 | – | – |
| With stabilizer/inhibitor | 51 | 30 | 20 | 36 (2019) | – |
| **Manure applied (%)** | | | | | |
| | 18 | 22 | 18 | 7 | 6 |
| **Yield (bu/ac)** | | | | | |
| Corn | 200 | 181 | 189 | 195 | 173.3 |
| Soybean | 53 | 51 | 51 | 50 | 49.5 |
| **Acres included in analysis** | | | | | |
| | 36,979 | 38,959 | 33,137 | - | - |

*2022–2024 values reflect practice percentages for acres included in the Eocene analysis. Statewide and national percentages for tillage, cover crops, and manure application were estimated from 2022 USDA Census of Agriculture data by dividing reported acreage under each practice by total cropland acreage. Minnesota values marked with 2019 reflect the most current estimates available from the Minnesota Department of Agriculture. 2022 yield data sourced from USDA NASS.*

- **Tillage:** No-till remained relatively steady on 12–14% of acres—roughly double the Minnesota average (6%), and below the national average (28%). Reduced tillage was used on 37–59% of acres, aligning with the Minnesota average (37%) and exceeding the national average (25%). Conventional tillage—defined as incorporating 70% or more residue and/or making three or more tillage passes per growing season—accounted for 28–50% of acres, aligning with the Minnesota average (44%) but higher than the national average (19%).
- **Cover Crops:** Cover crops were planted on 22–28% of acres, significantly above statewide (4%) and national (5%) averages. Common cover crop species included cereal rye, barley, hay, mustard, oats, peas, pearl millet, rapeseed, sudangrass, tillage radish, triticale, and winter wheat.

- **Soil Testing and Nutrient Management:** Soil testing within the past four years occurred on 57–82% of fields, supporting more efficient nutrient use and informed management decisions. Average nitrogen application rates ranged from 160 lbs/ac in 2022 to 137 lbs/ac in 2024, with most nitrogen applied pre-plant (36–48%), followed by in-season (26–32%), post-harvest (16–28%), and starter (5–10%). Between 20–51% of applied nitrogen was treated with a stabilizer or inhibitor.
- **Manure Use:** Manure was applied on 18–22% of acres each year, higher than the statewide average of 7%.

### Environmental Outcomes (2022–2024)

Modeling results revealed that reduced tillage, incorporation of cover crops and crop rotations, and improved nutrient management consistently reduced soil erosion, greenhouse gas emissions, and nutrient losses across three growing seasons, though the magnitude of annual reductions varied by weather, soil type, participation acreage, and management. From 2022 to 2024, implemented practices cumulatively prevented over 102,320 tons of soil loss—equivalent to more than 6,390 dump trucks—cutting erosion by 52% across growing seasons (Table 2). Most modeled erosion was caused by wind, which was reduced by 73%, while water erosion decreased by 27%, protecting topsoil, boosting productivity, and building long-term resilience to extreme weather.

**TABLE 2:**

**Modeled Environmental Reductions by Growing Season, 2022-2024**

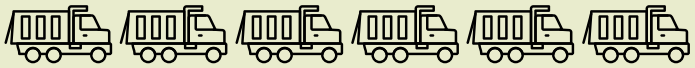
*Percent reductions in erosion, greenhouse gas emissions, and nutrient losses compared to a conventional management baseline without cover crops.*

| Growing season | Erosion reduction | Emission reduction | N loss reduction | P loss reduction |
|---|---|---|---|---|
| 2022 | 42% | 98% | 13% | 18% |
| 2023 | 64% | 93% | 21% | 26% |
| 2024 | 51% | 102% | 11% | 13% |
| 3-year average | 52% | 97% | 15% | 19% |

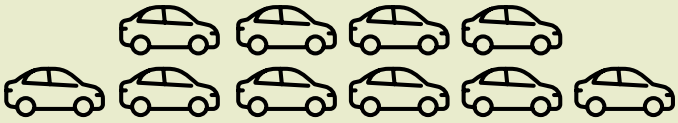
*Source: Eocene Environmental Group, internal analysis contracted by the Minnesota Corn Growers Association (2024).*

Conservation practices also reduced greenhouse gas (GHG) emissions by more than 55,000 tons of carbon dioxide equivalent ($CO_2e$) —equivalent to removing over 10,730 passenger cars from the road for a year. In 2024, modeled results indicated that many participating fields achieved net-zero or better carbon balance (Table 2), driven by gains in soil carbon storage, with an estimated 4,000–5,000 tons of soil carbon sequestered annually, strengthening soil health and function.

## Erosion and GHG Emissions Outcomes, 2020–2024



**102,320 tons = over 6,390 dump trucks**
of soil saved from water and wind erosion



**55,279 fewer tons = over 10,730 passenger cars**
of $CO_2$ e emissions off the road for one year

At the same time, modeled results show an average 15% reduction in nitrogen loss and a 19% reduction in phosphorus loss, preventing more than 428,000 pounds of nitrogen and 56,000 pounds of phosphorus from entering waterways through leaching and runoff. By aligning nutrient applications with crop needs, using stabilizers, integrating cover crops, and reducing tillage, farmers increased fertilizer efficiency while protecting Minnesota's lakes, rivers, and groundwater.

Minnesota Corn farmers are demonstrating that productive agriculture and environmental stewardship go hand in hand. Through widespread adoption of practices such as reduced tillage, cover crops, crop rotations, and targeted nutrient management, farmers have improved soil health, reduced erosion, cut greenhouse gas emissions, and protected water quality across millions of acres in Minnesota.

The data tells a clear story: when farmers are supported with practical tools, technical assistance, and stable funding, progress accelerates. As Minnesota advances toward its environmental and climate goals, maintaining this momentum will require collaboration across public and private partners and sustained investment in voluntary, farmer-driven solutions. By continuing to scale practices that work on the ground, Minnesota can safeguard its natural resources, enhance farm profitability, and ensure a thriving agricultural landscape for future generations.

## Water Quality Outcomes, 2022–2024

7
**N**
**Nitrogen**
14.007

**428,000 lbs. N**
saved from leaching and runoff

15
**P**
**Phosphorus**
30.974

**56,000 lbs. P**
saved from runoff

# Profit

The third pillar of Minnesota Corn's sustainability strategy ensures farmers earn a fair profit while providing affordable goods to consumers. By safeguarding reliable, diverse markets and championing farmer interests, Minnesota Corn enables growers to reinvest in their families, communities, and on-farm practices that enhance both profitability and environmental stewardship. Minnesota Corn drives market growth by investing in ethanol promotion, infrastructure, and advocacy; expanding export markets for corn, corn products, and animal protein; and commercializing innovative corn-based products.

## 2024: A Challenging Year for Minnesota Farms

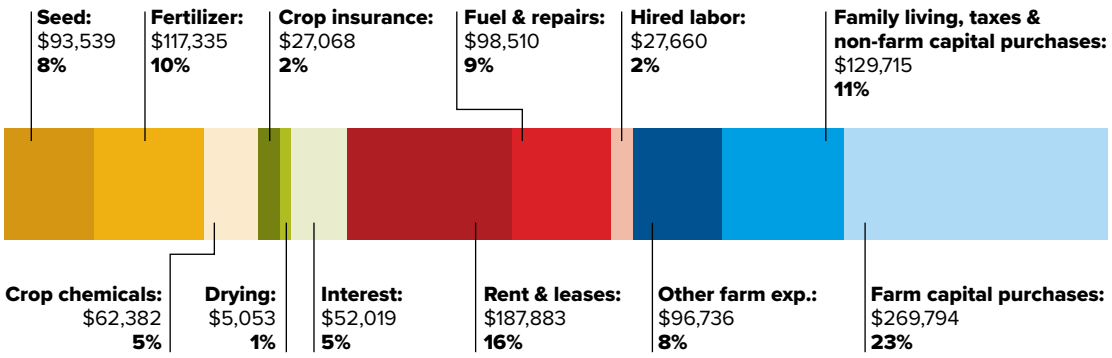
Lower crop prices, tight grain markets, and extreme weather made 2024 one of the toughest years for Minnesota farms in decades. Median farm income fell to just $21,964—a 51% drop from 2023—while crop farms saw an unprecedented 95% decline to only $2,371, down from over $236,000 two years earlier. With household and tax expenses averaging more than $113,000, many families had to draw down working capital just to make ends meet.

Even in a down year, Minnesota farms remained vital engines of local economies. Crop farms spent over $1.4 billion operating their businesses in 2024, with most of that money flowing through local cooperatives, suppliers, and service providers. On average, each farm contributed more than $1.1 million to its surrounding community (Figure 6).

**FIGURE 6:**

### Average Total Dollars Spent by a Minnesota Crop Farm in 2024, by Expense Category

*Minnesota crop farms spent an average of $1.17 million per farm in 2024, driving local economies through major expenses in capital purchases (23%), rent and leases (16%), and fuel and repairs (9%).*




*Source: Adapted from AgCentric, Crop Farm Sort – 2024; University of Minnesota Extension, Center for Farm Financial Management (FINBIN).*

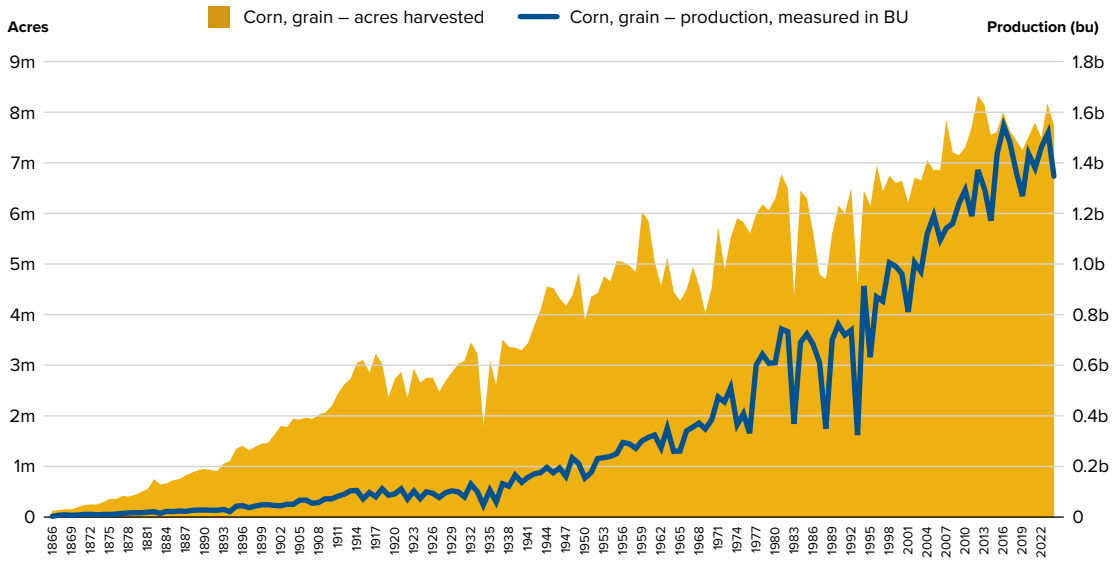
## Balancing Productivity and Profitability in Minnesota Corn

Over more than 150 years, Minnesota corn farmers have continually increased production through innovation and efficiency. Early growth came from expanded acreage—rising from less than 1 million acres in the 1880s to nearly 7 million by the 1950s. Since then, farmers have maintained production on a relatively consistent footprint of 7 to 8.5 million harvested acres, even as total output has tripled, reflecting efficiency gains rather than land expansion (Figure 7).

**FIGURE 7:**

### Minnesota Corn Production and Harvested Acres, 1866-2024

*Minnesota's corn production has increased substantially over time, even as harvested acres have remained relatively stable for the past three decades—showing rising output driven by efficiency rather than land expansion.*



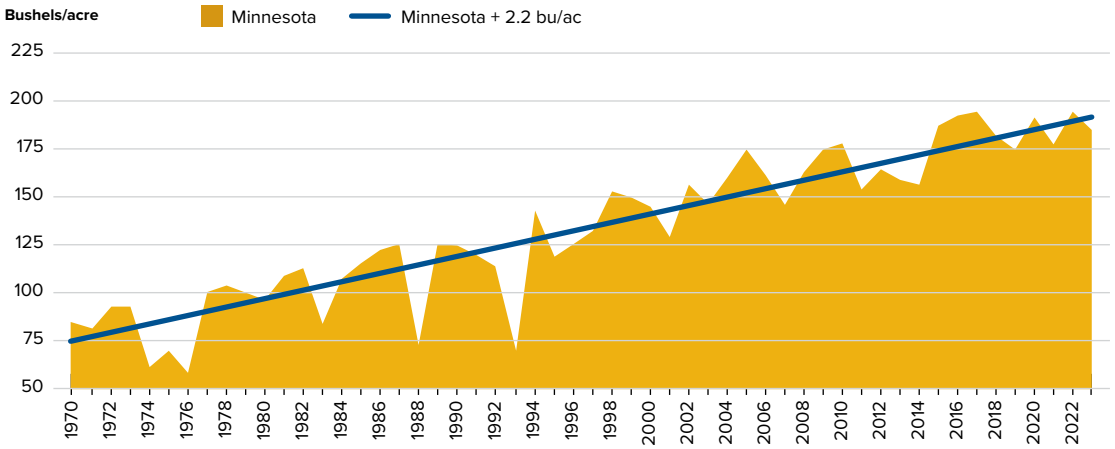

*Source: USDA National Agricultural Statistics Service, Quick Stats: Corn Grain Acres Harvested and Production, Minnesota, 1866–2024 (2024).*

Average yields have climbed from under 40 bushels per acre in the 1940s to nearly 190 bushels per acre today, supporting record statewide production (Figure 8). These gains are the result of farmer leadership and advances in seed genetics, fertility management, precision technology, and conservation practices that sustain both productivity and soil health. According to USDA NASS, Minnesota farmers harvested 7.85 million acres in 2023 and 7.73 million acres in 2024, producing 1.45 billion and 1.35 billion bushels, respectively.

**FIGURE 8:**

## Average Corn Yield in Minnesota, 1970–2023

*Minnesota's average corn yields have increased steadily over the past five decades, rising from around 70 bushels per acre in the early 1970s to nearly 200 bushels per acre today. The trendline indicates an average annual gain of roughly 2.2 bushels per acre, reflecting sustained improvements in genetics, management, and agronomic practices.*




*Source: USDA National Agricultural Statistics Service, Quick Stats: Corn Grain Yields and Production, Minnesota, 1970–2024 (2024).*

Although total corn acreage has remained within a relatively consistent range since the 1990s, annual variation persists as farmers respond to market and agronomic conditions. Planting decisions shift each year based on relative crop prices (especially corn–soybean ratios), fertilizer costs, input availability, and expected returns per acre. Weather and planting conditions also play key roles—wet springs can shift acres to soybeans or prevent planting altogether, while favorable markets or improved hybrids can bring acres back to corn. In short, Minnesota's corn system is stable but responsive, fine-tuned each season to manage risk and optimize profitability.

Even as productivity remains strong, corn stocks have grown, tightening margins. USDA's October 2024 Grain Stocks Report estimated 358 million bushels of corn stored on Minnesota farms and in commercial facilities—up roughly 12% from the previous year. Larger carryover supplies, combined with lower national prices, have tempered revenue gains despite efficiency improvements.

The continued efficiency gains of Minnesota corn farmers highlights both an achievement and a challenge: productivity growth threatens to outpace demand growth. Sustaining profitability in this next era will require expanding markets for Minnesota corn—from ethanol and sustainable aviation fuel to livestock feed, exports, and emerging bio-based products—to ensure that rising efficiency continues to translate into strong farm incomes and resilient rural economies.

## Minnesota Corn Checkoff: Driving Profitability, Sustainability, and Economic Growth

Corn is central to Minnesota's economic strength and resilience. In 2024, the state's corn farmers produced 7.9% of the total U.S. corn crop—worth nearly $5.1 billion—generating $8.3 billion in statewide economic activity and supporting 32,696 jobs. Keeping farms profitable and competitive is critical not only for Minnesota's farm families but also for fueling rural economies, supporting local businesses, and securing the state's agricultural future.

For 35 years, the Minnesota Corn Research and Promotion Council (MCR&PC) has strengthened farmer competitiveness, sustainability, and economic vitality by investing checkoff dollars in research, innovation, and market development. These strategic investments deliver impressive economic returns: every $1 invested in domestic market development returns $87, while every $1 invested in ethanol promotion returns $117.

### Ethanol: Fueling Minnesota's Farms, Consumers, and Economy

Minnesota Corn has been a driving force behind the state's ethanol leadership, investing more than $35 million since 2008 to expand markets, build infrastructure, and promote ethanol-blended fuels. These efforts helped Minnesota become the first state to adopt a 10% ethanol standard and maintain the nation's highest blend rate at 12.7%. Today, more than 500 retail stations offer E15 (Unleaded 88), fueling record sales and consumer savings.

Ethanol delivers wide-ranging benefits. For farmers, domestic ethanol production increases the local corn basis by an average of 15 cents per bushel, adding over $71 million annually to farm income. For consumers, Unleaded 88 provides a cleaner-burning, higher-octane fuel that costs 5–20 cents less per gallon and reduces greenhouse gas emissions. In 2024, Minnesota drivers pumped nearly 143 million gallons of E15, saving over $25 million at the pump (Figure 9). In 2024, Unleaded 88 consumed an additional 2.1 million bushels of corn compared to what would have been used with E10 across 395 stations that reported volumes in Minnesota.

**Minnesota Corn Checkoff Delivers**

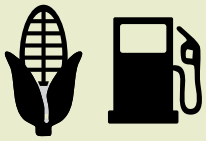
Investments that multiply impact, fuel profitability, expand markets, and strengthen Minnesota's economy.

**Domestic Market Development**

**$1→$87**

Every checkoff dollar invested returns $87 to Minnesota farmers.

**Ethanol-Focused Investments**



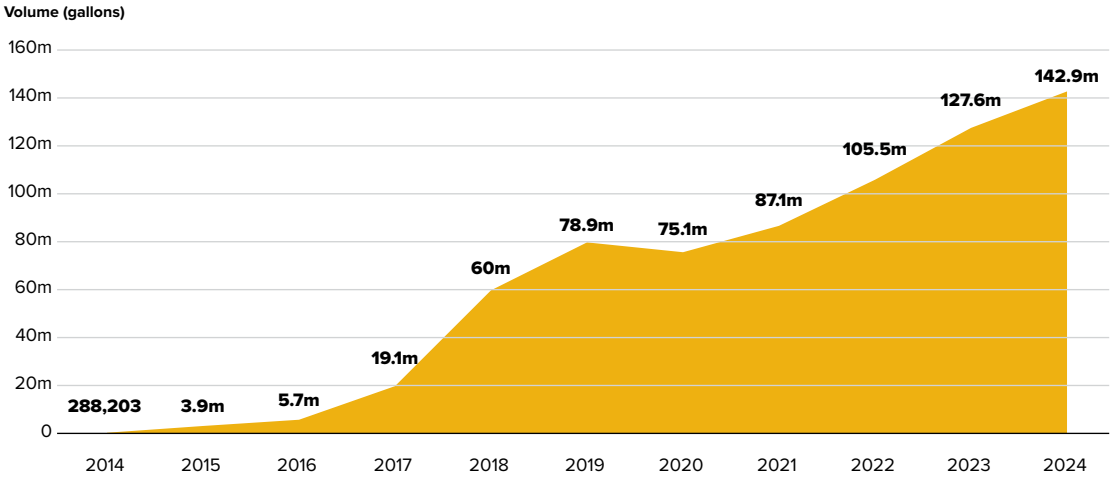
**$1→$117**

Every checkoff dollar invested returns $117 to Minnesota farmers.

FIGURE 9:

**Annual Reported UNL88 (E15) Fuel Sales in Minnesota, 2014–2024**

*Sales of UNL88—a 15% ethanol blend—have grown from 288,000 gallons in 2014 to a record 142.9 million gallons in 2024, driven by expanded station availability, increasing consumer demand, and continued investment in ethanol infrastructure and promotion.*




*Source: Minnesota Department of Commerce, Annual UNL88 (E15) Fuel Sales in Minnesota, 2014–2024.*

The ripple effects extend statewide. Minnesota's 18 ethanol plants generated $5.2 billion in economic activity, supported 18,434 jobs, and contributed $2.1 billion to state GDP in 2024. Local cooperatives, crop producers, and real estate sectors were among the industries seeing the strongest gains. By investing in research, infrastructure, and consumer education, Minnesota Corn ensures ethanol remains a cornerstone of farm profitability, local economic vitality, and a more sustainable energy future for all Minnesotans.

## Expanding Export Markets for Corn, Corn Products, and Animal Protein

Minnesota ranks as the fourth-largest corn exporter in the U.S., with corn and related products contributing $4.73 billion to the state economy in 2023, making corn Minnesota's second-largest agricultural export. Corn exports totaled $1.3 billion, supporting over 8,900 jobs, while ethanol and coproduct exports added nearly $576 million, supporting another 5,200 jobs and $1.6 billion in economic output. Exports of Minnesota-grown corn through the corn equivalent of meat generated an additional $384 million in export value, supporting 2,620 jobs and $706 million in output.

**↑15%**

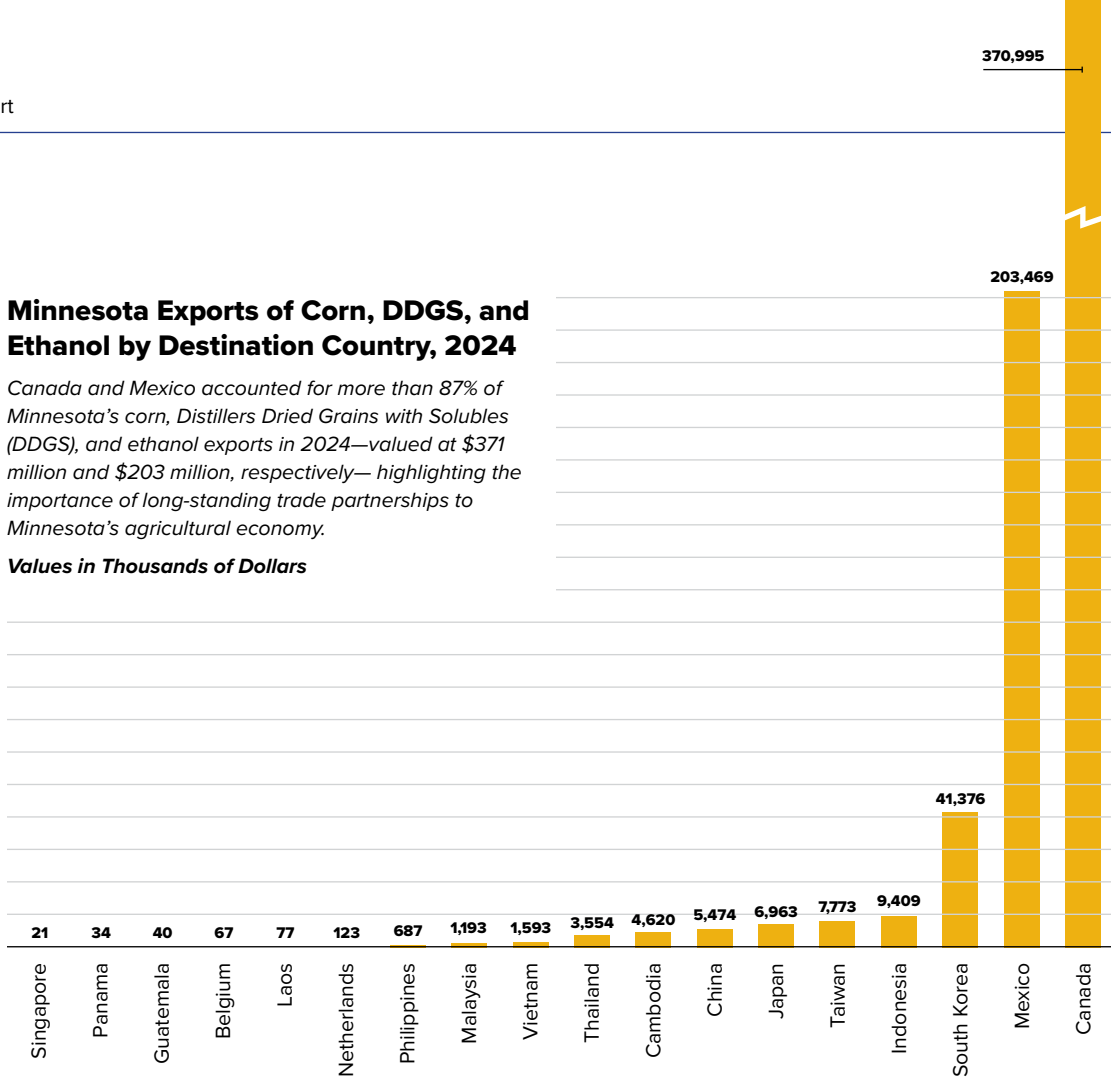
**Increase in U.S. Corn Exports, 2000–2024**

Checkoff-supported export programs through the U.S. Grains & BioProducts Council helped drive a 15% increase in U.S. corn exports over the past two decades, expanding markets, strengthening demand, and enhancing farm profitability.

## Minnesota Exports of Corn, DDGS, and Ethanol by Destination Country, 2024

*Canada and Mexico accounted for more than 87% of Minnesota's corn, Distillers Dried Grains with Solubles (DDGS), and ethanol exports in 2024—valued at $371 million and $203 million, respectively— highlighting the importance of long-standing trade partnerships to Minnesota's agricultural economy.*

***Values in Thousands of Dollars***




*Source: USDA Foreign Agricultural Service, Global Agricultural Trade System (GATS): Minnesota Agricultural Exports (2024).*

### Strengthening Global Relationships Through On-Farm Engagement

*In July 2024, Minnesota Corn helped host a visiting delegation from India focused on ethanol and livestock feed as part of our partnership with the U.S. Grains & BioProducts Council. The group toured Gar-Lin Dairy Farms, operated by MCGA Board Member Dana Allen-Tully, to see how efficient U.S. dairy systems integrate corn into high-quality feed rations and demonstrate the value of American corn in global protein production. Visits like this strengthen Minnesota's export relationships and highlight the critical role Minnesota farmers play in global agricultural systems.*

## New Uses: Driving Innovation and Sustainable Growth

Since 2014, the checkoff has invested over $4 million in research and development of new corn-based products and sustainable technologies at institutions like the University of Minnesota Center for Sustainable Polymers and companies such as Låkril and Valerian Materials. These innovations represent a market that, if switched to a plant-based alternative like corn, would require more than 1 billion bushels annually. Capturing a fraction of this market would represent significant corn utilization, showing how targeted checkoff investments directly drive market growth, expand opportunities for farmers, and strengthen Minnesota's agricultural economy. One of the key success factors for new technologies is ensuring costs are on par with and products perform as well or better than current petroleum-based products. Låkril Technologies and Valerian Materials have demonstrated they can do both.

Minnesota Corn is transforming everyday materials by funding research that turns corn into renewable feedstocks:

- **Låkril Technologies** converts lactic acid from corn into acrylic acid, a key ingredient in adhesives, paints, coatings, and superabsorbent polymers.
- **Valerian Materials' Nuvone** is a bio-based monomer from corn sugars that can be transformed into foams and recyclable polymers for products like yoga mats, shoe soles, and packaging. Nuvone can be chemically recycled or composted, reducing landfill waste and supporting a circular economy.

By advancing renewable, biobased feedstocks, Minnesota Corn drives innovation that expands corn demand, strengthens farm profitability, and reduces reliance on fossil fuels.

The Minnesota Corn Checkoff is essential for farm profitability, rural vitality, and statewide economic growth. By keeping farmers profitable and sustainable, the checkoff safeguards the long-term health of Minnesota agriculture, strengthens rural communities, and ensures the state remains a leader in U.S. corn production and competitive in global markets.

Through strategic investments in market development, ethanol infrastructure, exports, and innovative new uses for corn, the checkoff creates opportunities that benefit farmers, consumers, and the broader Minnesota economy—today and for generations to come.

**1 billion bushels**

Together, Låkril and Valerian Materials have the potential to capture a market that, if filled with corn-based products, could require more than 1 billion bushels of corn each year.

# Conclusion: Sustaining Minnesota's Future Together

By aligning People, Planet, and Profit, Minnesota Corn is charting a path toward a more resilient agricultural future—one where farmers thrive, communities prosper, and natural resources are safeguarded for generations.

## People

Minnesota Corn invested in people, education, and communities to strengthen the foundation of Minnesota agriculture, resulting in:

- **Increased Agricultural Literacy & Leadership**: Invested $1.5M since 2021 to reach 160,000+ K–12 students annually and support thousands of emerging leaders through scholarships and leadership programs.
- **Strengthened Rural Community & Consumer Connections**: Invested $3.4M since 2021 to engage 1.5M Minnesotans in 2024 through events, sports sponsorships, and educational programming—supported by 6,500+ members and 52 county associations.
- **Expanded Farmer Knowledge & Innovation**: Invested $7M since 2008 in farmer education and outreach, including Nitrogen Smart training for 1,200+ farmers on 1M+ acres and 100+ Innovation Grants that improved profitability and resource stewardship.

## Planet

Minnesota Corn invested in practical, science-based solutions to protect soil and water resources while sustaining productivity, resulting in:

- **Secured State & Federal Funding**: Advocated for targeted water-quality efforts—such as nitrate reduction in southeast Minnesota and expanded soil-health assistance—to help farmers protect natural resources.
- **Improved Production & Environmental Stewardship**: Invested $12M+ since 2008 across 60+ long-term research projects, enabling improved nitrogen efficiency, increased soil carbon, and reduced input costs.
- **Documented On-Farm Environmental Benefits**: Demonstrated 52% less erosion, 98% lower emissions, 15% less nitrogen loss, and 19% less phosphorus loss over three years, based on current practices compared to a conventional baseline on Minnesota Corn farms.

## Profit

Minnesota Corn bolstered farm income and expanded long-term demand through strategic market development and investments, which delivered:

- **Advanced Ethanol Promotion & Infrastructure**: Invested $35M+ since 2008 to expand ethanol access and awareness—delivering strong returns to farmers, raising corn basis by 15¢/bu (+$71M/year), and saving Minnesota drivers $25M in 2024.
- **Enhanced Global Engagement & Market Access**: Strengthened export opportunities through international outreach and partnerships, supporting efforts to expand global markets by 15%.
- **Accelerated Innovation & New Uses**: Invested $4M+ since 2014 to advance biobased products such as Låkril and Valerian Materials, which, if scaled, could unlock 1B+ bushels of future corn demand.

Together, we can scale solutions that deliver lasting impact across Minnesota and beyond.

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MinnesotaCorn