Agriculture Investment in Minnesota

Senate Agriculture Committee

March 11, 2025

- ***Bioeconomy***
- ***FAARM***
- ***Precision Agriculture***
- ***Food Science and Nutrition (HEAPR)***

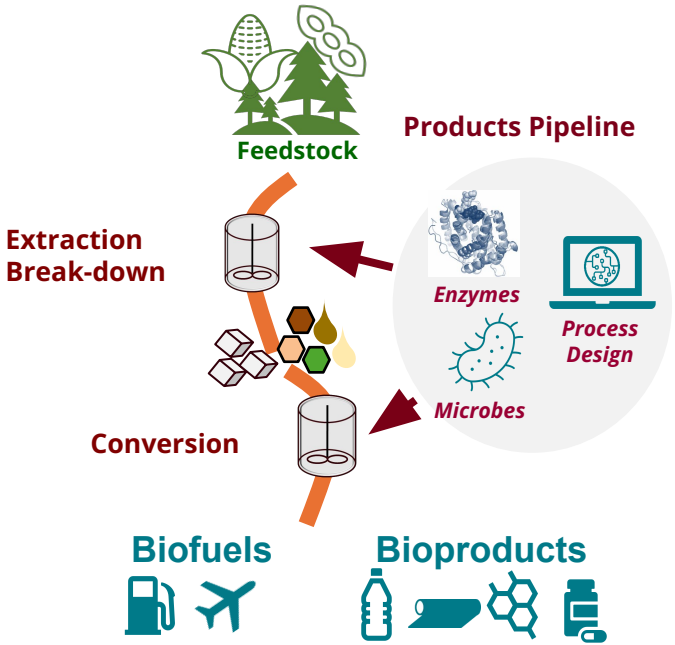
Dr. Rebecca Cunningham, President,University of Minnesota

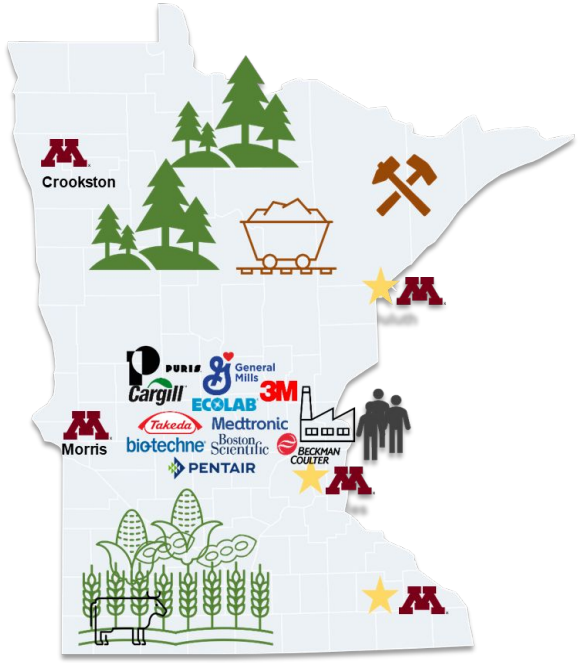
Shashank Priya, Vice President for Research and Innovation

Brian Buhr, Dean, College of Food, Agricultural and Natural Resource Sciences

Minnesota Engine for Biomanufacturing

VISION: Leverage the UMN and Minnesota's unique resources and talents to transform Minnesota into a national bioeconomy innovation hub



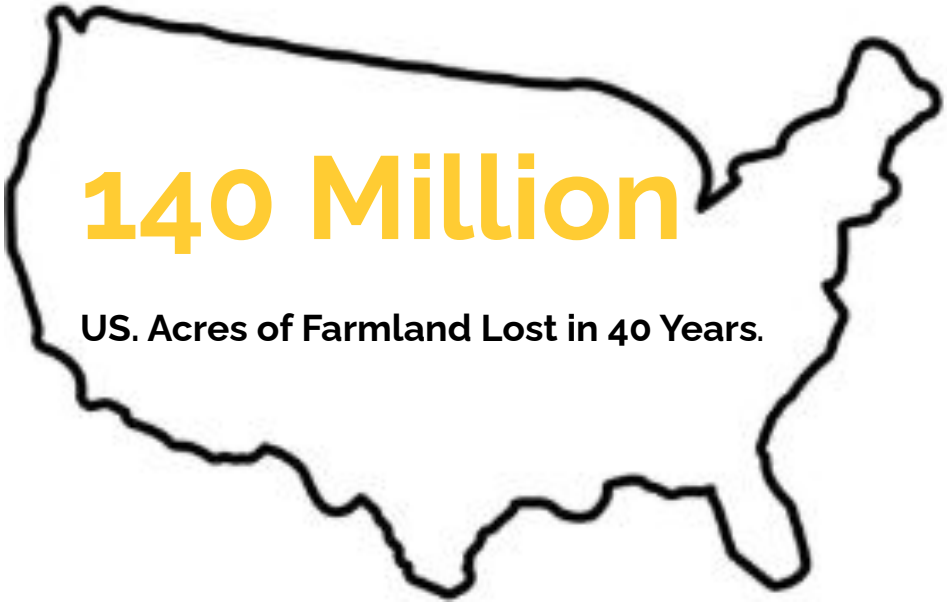


Minnesota's unique resources and talents

- Feedstocks, minerals
- Education systems
- Human capital
- Globally-dominant industrial ecosystem

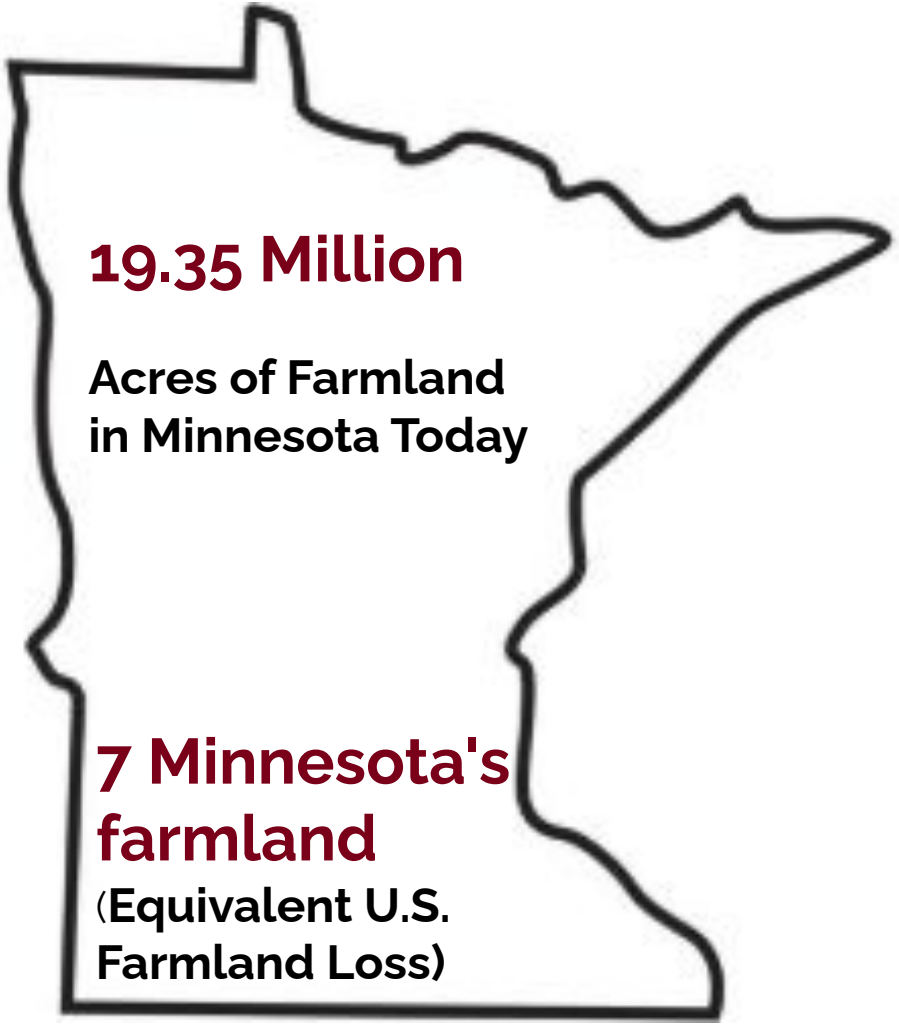
FAARM: A bold vision for innovative research, technology & workforce

Need for Advanced Agricultural Research



140 Million

US. Acres of Farmland Lost in 40 Years.



19.35 Million

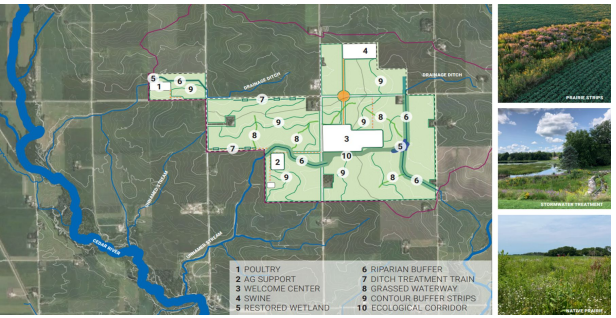
Acres of Farmland in Minnesota Today

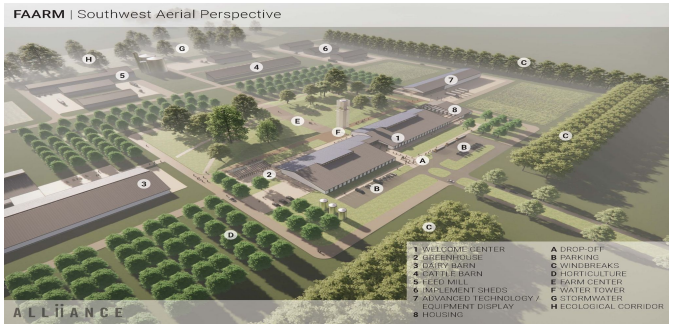
7 Minnesota's farmland

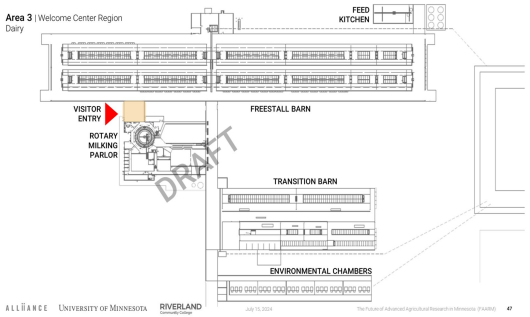
(Equivalent U.S. Farmland Loss)

FAARM’s Bold Vision

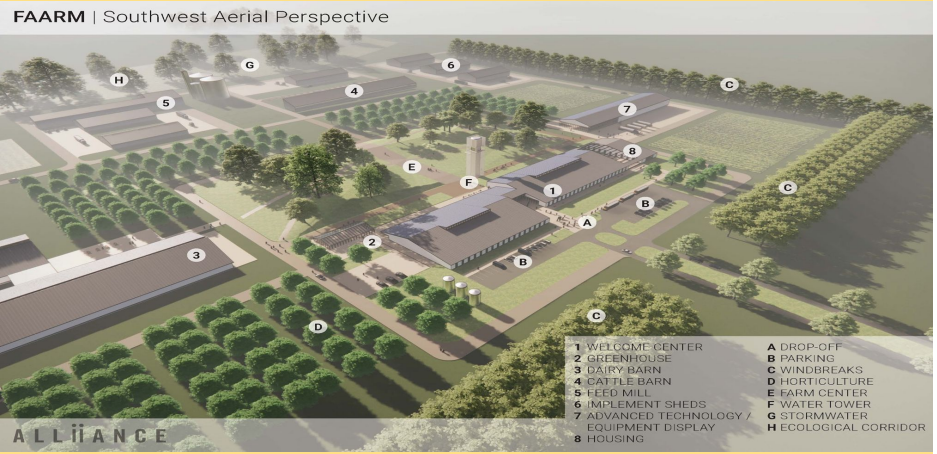
Combine agricultural, engineering, robotic, biological and information technologies in a real-world farm setting to solve the grand challenge of delivering more and **healthier food** and **bio-products** using **fewer acres** and **eliminating harmful environmental consequences**.







Leaders are building a solid foundation for FAARM's success

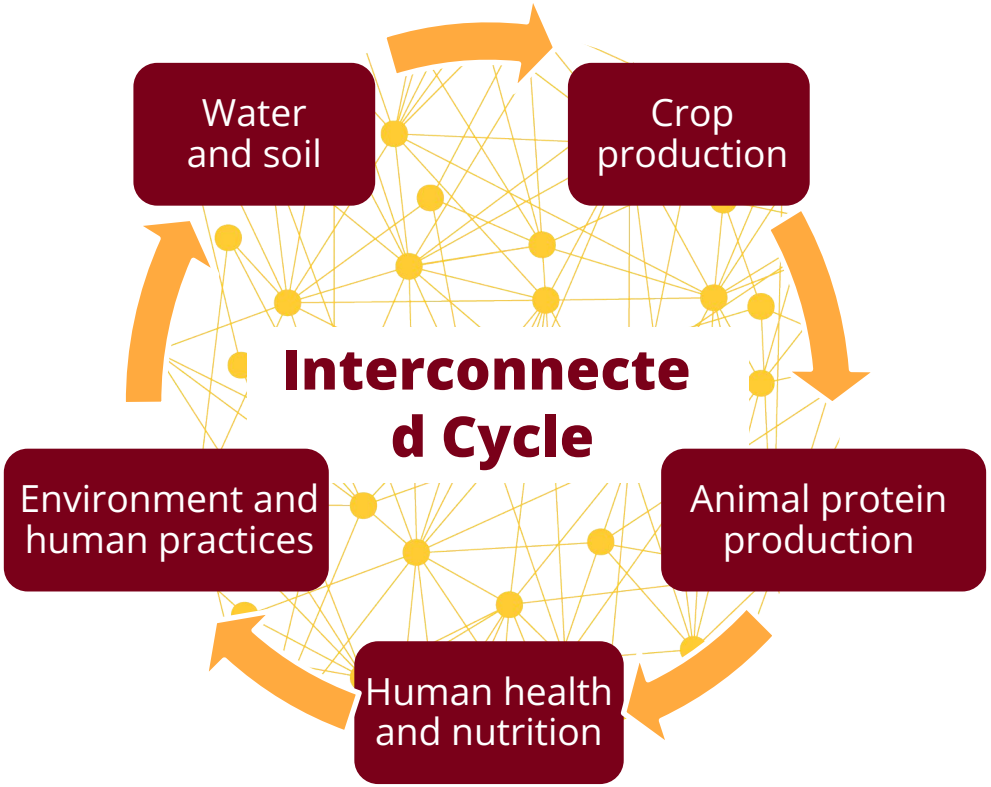


- **Feasibility study** and **pre-design work**
- **22 workshops** and **planning sessions** with internal/external stakeholders (> 200 invited, 100 participated)
- **Land acquisition:** 1,360 acres in Mower County
- **Oversight committee:** Operations, Finance, Partnerships/Government Relations, Communications

Interdisciplinary science in action

Understanding the interconnectedness between environment, soil, water, food, animal and human health

Long-term studies are needed to establish the correlations



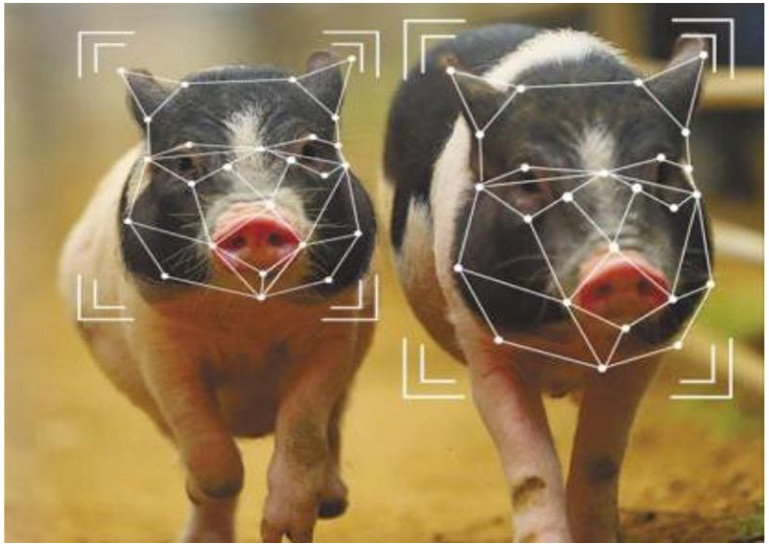
A vibrant research & outreach ecosystem

FAARM complements ongoing work to connect research to industry innovation, outreach and action

- Research and Outreach Centers, Hormel Institute, Minnesota State System (2 & 4 yr)
- Extension offices
- Intersections with Crookston, Duluth, Morris, Rochester campuses
- Continuing education
- Agriculture discovery (K-12, FFA, 4H, community tours)
- International delegations

Forward-looking teaching & education

- Teach modern approaches to agriculture
- Develop talent pipeline of tech-savvy professionals
- Collaborate with Riverland Community College
    - Support innovative and entrepreneurial training



Research solutions for today & tomorrow

FAARM will enable study of the interactions from soil, water and the foundations of agriculture, to plant, animal, environment and human health to:

- Grow rural economies
- Improve farmer profitability
- Approach net-positive impact on our soil, water, and air

Playing to University of Minnesota strengths

- A 170-year history of agriculture leadership and innovation
- Comprehensive expertise across food, agriculture, animal health, engineering, and business
- Holistic approach to interdisciplinary research

We must invest to protect our future leadership in the state, nation, world.

Integrating UMN Agricultural Innovation Ecosystem

FAARM builds on University of Minnesota research and innovation in St. Paul labs, fields, and barns; in Research and Outreach Centers; and in Extension offices statewide.

Renewed focus will drive system wide collaboration and ignite our role in Minnesota's bio-economy.

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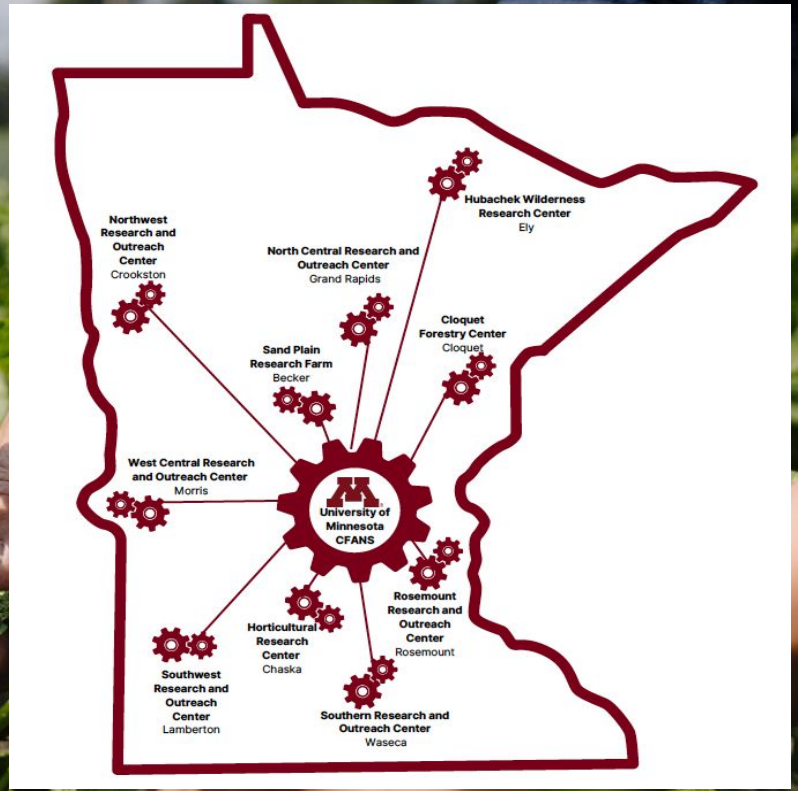
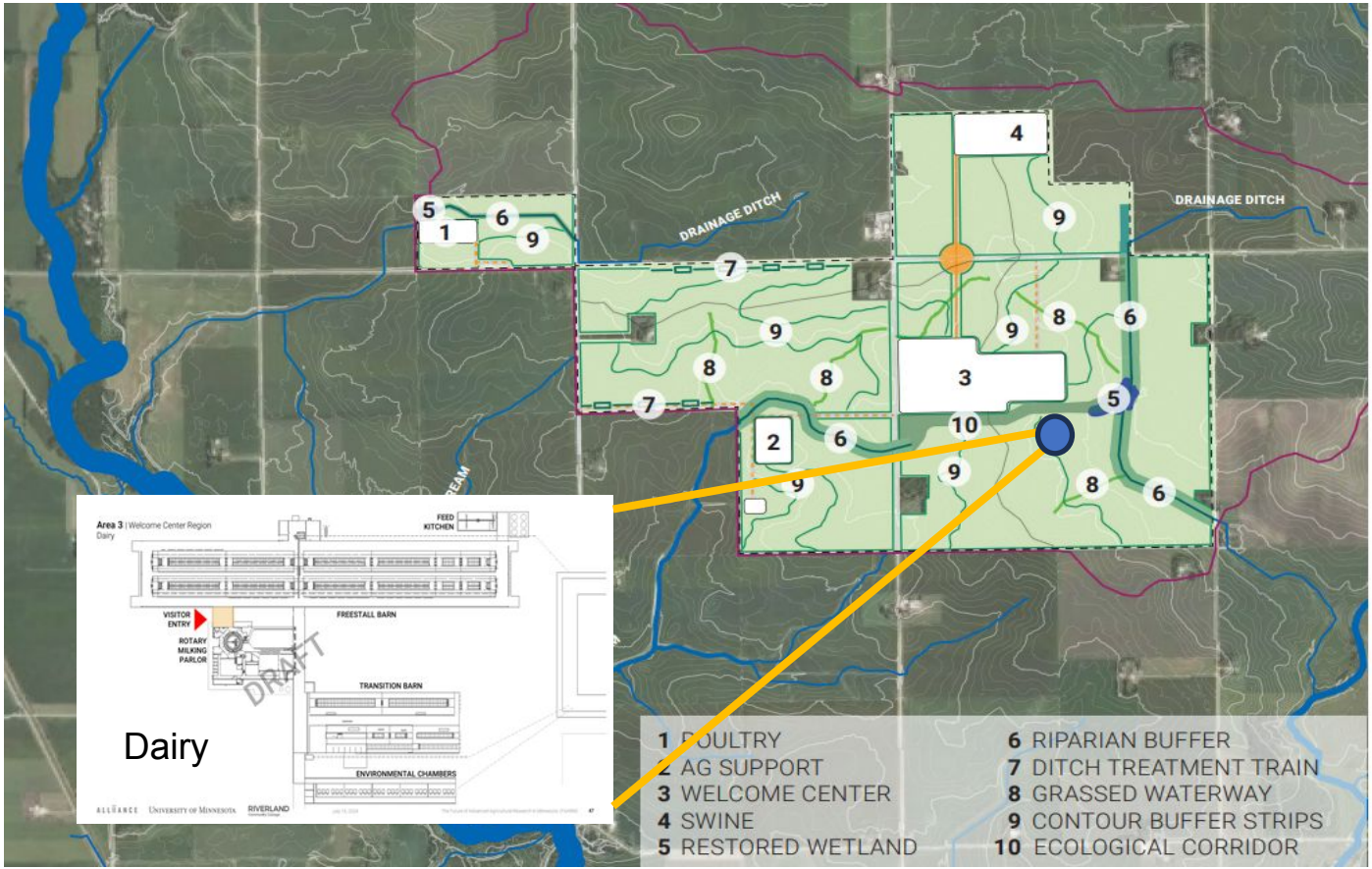


Provides catalyst for public-private partnerships

Industry partners are clear:

They need and trust in University of Minnesota expertise and are excited for our continued leadership to deliver in ways no other organization can.

Overall Site Concept | Site Ecology



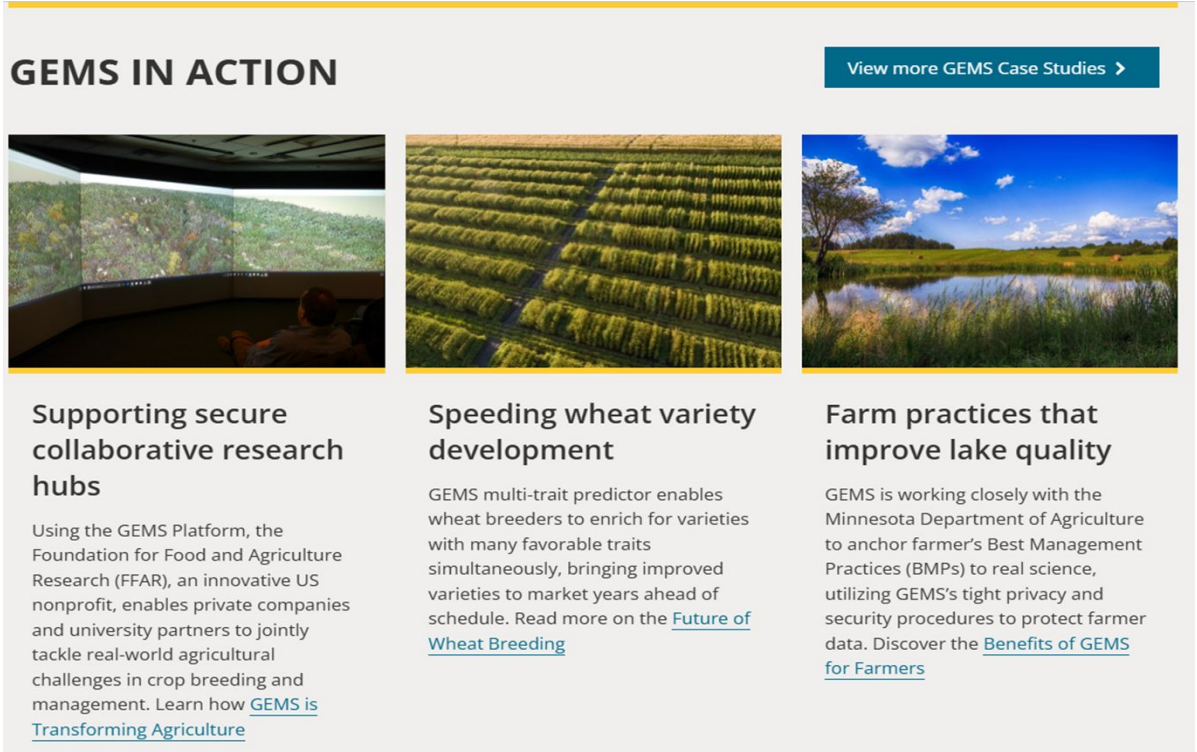
ALLIANCE UNIVERSITY OF MINNESOTA RIVERLAND Community College IMPACT AUSTIN DCA Development Corporation of Austin The Hormel Institute

FAARM Next Steps

- Pre-design complete – March 2025
- 2025 state legislative request for design
  - $20 million
- Continued consultation
- Phased construction
- Integrating St. Paul Campus Bioinnovation

Precision Agriculture – Data Sciences

- Joint Venture of CFANS & Minnesota Super-Computing Institute
- Partner in NSF AI-Climate Center focused on Agricultural Productivity
- Precision Irrigation/Water – to - Precision Dairy –to- Precision Animal & Human Nutrition



HEAPR Request: Food Science and Nutrition

- Supporting Minnesota's Globally Leading Food Industry
- Research, Innovation, Testing
- Resident Teaching and Outreach Training
- Electrical, Safety, HVAC, Sanitary Conditions
- Award Winning Cheese, Meat and Ice Cream

Food Science and Nutrition Partnerships

- State funded Agricultural Utilization Research Institute (AURI)
- Midwest Dairy Products Research Center – Midwest Dairy & Partner Universities

Start-ups:

- Nu-Tek Biosciences - Austin
  - Grad Alumni trained in lab
  - Peptones for pharma and food
- Red Head Creamery – Broton, Mn
  - Alumna – Alice Sjostrom, World Champion Artisan Cheese
- Plant Protein Innovation Center

UNIVERSITY OF MINNESOTA

Driven to Discover®

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