

# Trialing Dietary Interventions to Mitigate Enteric Methane Emissions in Dairy Cattle



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## Project Overview

Feed management, including additives, to reduce enteric methane emissions is gaining interest as an approach to reduce the dairy industry's carbon footprint. However, the strategies are not widely used within USDA's Natural Resources Conservation Service (NRCS) programs, nor do projects currently exist to generate credits within carbon markets, making it difficult to support an economic case for adoption.

The Nature Conservancy, the Innovation Center for U.S. Dairy, and the Institute for Feed Education and Research are launching a three-year project to explore innovative feed management strategies that can reduce enteric methane emissions in dairy cattle. This project aims to better understand potential emissions reductions from various feed management strategies (including additives), barriers to adopt these feed management strategies, and avenues to overcome those barriers by sharing on-trial results, economic assessments, and scientific insights to better inform NRCS programming. In addition, the project will engage a wide spectrum of dairy industry stakeholders to scale adoption via private and public sector-supported pathways.

The U.S. Department of Agriculture (USDA) recently announced a \$537,440 award for this project through its Conservation Innovation Grants On-Farm Conservation Innovation Trial program. With project partner resource contributions, the project will total more than \$800,000.

Working with up to 10 dairy farms in Michigan and Wisconsin, this project will combine on-farm trials and demonstrations of emerging technologies with strategic engagement of critical stakeholders including farmers, farm advisors, industry, carbon market players, and regulators for scaling the adoption of feed management strategies. The project will provide direct financial support to participating farmers to cover their costs of participation and as a direct incentive to participate, paying farmers over \$40,000 over the course of the 3-year project. This includes payments in alignment with the Feed Management 592 and Feed Management Plan 108 Practice Standards schedules.



*Each organization has a key role in the project, helping dairy farmers meet the growing demand for food while protecting our environment. © Bridget Besaw for TNC*

### Project Objectives

- 1. Evaluate Mitigation Strategies through On-Farm Assessment:** On-farm trials will evaluate environmental and economic performance of feed strategies and additives that reduce enteric methane emissions. Working with up to 10 Michigan and Wisconsin dairy operations, the project will review existing feed strategies and modify diets at each operation to assess use of commercially-available products, such as tannins, essential oil blends, monensin, medium-chain and polyunsaturated lipids (coconut, linseed and cottonseed oils), and corn silage for improved starch digestion.
- 2. Develop Feed Management Insights using an Expert Panel, and Surveys/Interviews:** An expert panel consisting of industry, academic, farmer, and public-sector experts will be convened. The expert panel will review planned feed strategies for on-farm trials and demonstrations, provide guidance on practice improvements, and advise on the development of multi-media educational resources.
- 3. Inform Targeted Stakeholders:** Leveraging existing partner communication pathways and utilizing conference opportunities, the project outcomes will be shared with dairy industry stakeholders in positions to advise and influence farmer decision making on feed management.
- 4. Inform NRCS Programs and Activities:** The project will engage NRCS and Soil and Water Conservation District staff to use project insights and outcomes to inform program design, funding, and other activities.

### Partner Organizations

**The Nature Conservancy (TNC)** is a leading global conservation organization with a mission to protect the lands and waters on which all life depends. TNC will oversee project management and lead farmer and stakeholder survey efforts to inform project deliverables and corresponding outreach, education, and engagement. Contact: Alisha Staggs, [alisha.staggs@tnc.org](mailto:alisha.staggs@tnc.org)

**The Institute for Feed Education and Research (IFEEDER)** will develop and manage the industry and scientific expert panel to provide technical review and insights into project plans and actions. And IFEEDER will manage selection and coordination of a third party to undertake the on-farm trial economic assessment and expanded ration cost evaluation across a broader set of national geographies. Contact: Lara Moody, [Lmoody@afia.org](mailto:Lmoody@afia.org).

**The Innovation Center for U.S. Dairy (Innovation Center)** is a convening partner of the U.S. Dairy Net Zero Initiative, a collaboration of dairy organizations leading research, on-farm pilots and market development to make sustainability practices more accessible and affordable to farms of all sizes. Under this umbrella, the Innovation Center will serve as the Principal Investigator for the project and will oversee outreach and communication of project findings. Contact: Michelle Rossman, [juan.tricarico@dairy.org](mailto:juan.tricarico@dairy.org)