



About the Conservation Innovation Grant and the Dairy Farm Stewardship Toolkit

June 2011

USDA has awarded the dairy industry a \$1.1 million grant to fund the development of a Dairy Farm Stewardship Toolkit for dairy producers.

About the Toolkit

- The science-based toolkit will help producers evaluate their production techniques and identify potential improvements in management practices.
 - These improvements could increase profitability or reduce costs on the farm.
 - When completed, the toolkit will enable producers to generate an analysis of their stewardship practices and an improvement roadmap.
 - It also will help them communicate positive contributions their farm businesses have made to neighbors, community groups, consumers and customers.
- The development of the toolkit includes establishing a set of on-farm sustainability indicators that will be pilot tested on 120 producer farms across the U.S.
 - Indicators could include, for example: greenhouse gas emissions; energy efficiency; food safety and quality; water quality and use; waste management; and a farm's contribution to the local community through jobs and community relations.
 - A broad group of stakeholders from the dairy industry and other experts will determine which indicators best describe the quality and quantity of economic, social and environmental value provided by farms.
- Through the Innovation Center for U.S. Dairy, the U.S. dairy industry is developing best practices and decision-support tools for producers, processors, manufacturers, transport and retail.
 - The best practices and decision-support tools are part of a voluntary, industrywide effort to measure and improve dairy sustainability.
 - The toolkit is an important first component of the Farm Smart project, which is creating a series of on-field decision support tools for dairy and crop production management.
 - The toolkit builds on work already completed, including the greenhouse gas life cycle assessment, the greenhouse gas 'carbon footprint' calculator, and the Vital Capital Index.

About the Grant

The grant, awarded through a nationwide competitive process, is made available through the U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service.

The grant was issued to the Dairy Research Institute, an affiliate of the Innovation Center for U.S. Dairy. The money funds sustainability efforts being advanced by the Innovation Center.

The grant funds work over a three year period, beginning in August 2011.

Background Information for the C-AGG Chicago Meeting July 20-21, 2011
Project: The Dairy Farm Stewardship Toolkit

1. What are the major goals of the project?

- The goal of the *Dairy Farm Stewardship Toolkit* is to create a fully tested, innovative and unique tool to assess, measure, and benchmark for better management practices; and to communicate stewardship. In addition, the project has a goal to provide ready-to launch communication and marketing materials for field staff, Extension Agents, and State and District Conservationists to enable them to work with dairy producers on conservation practices.
 - The combination of the Vital Capital Index and Toolkit, the LCA tool, and a process-based model such as Manure-DNDC will allow dairy producers to assess their current stewardship performance, suggest alternative management practices for potential improvement, and measure the benefits delivered by such changes. While each tool alone can provide value to dairy producers, only the combination of the three can truly show the way for dairy producers to make measurable environmental improvements through their practices. The LCA tool can provide an excellent means to measure environmental impact, while the VCI can provide a means to demonstrate best management practices, and Manure-DNDC can quantify the greenhouse gas benefits from implementing these practices. Combining these tools into a user friendly toolkit and developing a comprehensive communication program for bringing tool kits and practices to dairy producers.
 - This project delivers both short and long term results. In the short term, conservation improvements are enabled by providing tools and learning devices to help dairy producers understand the value of stewardship and continuous improvement on their farm. In the long term, this creates a cultural transformation and change management system that prepares the producer for the development of an ecoservice marketplace.
 - The project objectives are as follows:
 - a. Increase understanding among dairy producers of the opportunities and benefits to their business for adopting best practices for GHG reduction and conservation practices
 - b. Provide producers with an easy-to-use self-assessment tool that measures environmental impact, suggests opportunities for improvement, provides a benchmark for measuring progress, suggests opportunities for cost-sharing of improved practices, helps communicate stewardship and assesses linkage opportunities and value to ecoservice markets
 - c. Develop and pilot a scalable mechanism to reach pros by working with and through local and regional producer-facing experts such as milk cooperatives, state and regional dairy promotion organizations, scientific advisory panels, NRCS State and District Conservationists, Extension Agents, farm equipment suppliers, etc.
 - d. Create a leading, state-of-the-art greenhouse gas emissions measurement and reduction toolkit that will be freely available for use by dairy producers, cooperative field staff, Extension Agents, NRCS State and District Conservationist, other commodities, private sector, and non profits
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- e. Increase awareness of cost-sharing opportunities including the Environmental Quality Incentives Program (EQIP) and market opportunities to reduce or eliminate the financial burden of conservation practices changes on dairy producers
- f. Drive the adoption of on-farm best practices with the potential to reduce GHG emissions by 25% by 2020 while enhancing business value and economic sustainability for dairy producers
- g. Highlight where research could be useful to improve assessment, measurement, and mitigation, resulting in increased collaboration and effective environmental mitigation research
- h. Translate GHG best management practices into National Conservation Practice Standards for NRCS
- i. Forecast how mitigation strategies, applied at scale, could affect the environment with an assessment of how ecoservices could incent behavioral change

2. What is the project timeline?

2-3 years

3. Which GHG are targeted by the project, and/or which activities?

Methane, nitrous oxide, carbon dioxide

4. Can you provide an estimate of tons of CO₂equivalents (per year, and/or over the course of the project) that the project might mitigate/abate?

Our goal is 25% reduction, we will be on 120 farms.

5. What methods or protocols will the project use to measure or estimate GHG emissions and emissions reductions (e.g. direct measurement, sampling, models, etc)?

We will be evaluating all measure and protocols for it's applicability to farmers. The goal of the project is to focus on the farmers and how markets will interact with farmers.

6. Do you anticipate or envision any obstacles or barriers to achieving your project goals and outcomes as currently set out, or activities that you believe will be challenging?

That supplier scorecards would move faster than the science or the farmers could manage. Obstacle that there multiple protocols that use different measurement and lca methodologies.

7. Have you identified any data or knowledge gaps associated with the project?

LCAs we are working on, phosoporus, consolidated national and regional BMPs that are updated and can be adopted to the LCA science.

8. Please list the project partners affiliated with the project.

DNDC-ART, Manomet Center for Conservation Sciences

