



FREQUENTLY ASKED QUESTIONS
USDA and Innovation Center MOU
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Climate Change Issues

Q: Do you believe in climate change?

A: Whether or not you believe in global warming, becoming more energy efficient, and protecting the land, air and water just makes good business sense. Through the U.S. Dairy Sustainability Commitment, we are demonstrating our industry's pride and reputation as a leader in agricultural innovation, environmental stewardship and consumer focus. This industrywide effort will benefit every segment in the dairy supply chain by increasing business value while reducing greenhouse gas emissions.

Q: Do you support climate change regulation?

A: The dairy industry is focused on reducing its greenhouse gas emissions. Over the last 60 years, we have reduced our carbon footprint more than 60 percent. The Innovation Center does not engage in policy advocacy and therefore takes no position in the climate change debate. Whatever happens in the climate talks, we believe it's important that there be a level playing field among nations. Regardless, our focus is on ensuring a sustainable future for the dairy industry—economically, socially and environmentally.

Q: Why is the Innovation Center for U.S. Dairy at the U.N. Climate Change Conference?

A: The USDA has signed a Memorandum of Understanding with the Innovation Center for U.S. Dairy, reflecting the commitment of both parties to take steps aimed at creating a sustainable future for the dairy industry. We are pleased that this Memorandum of Understanding recognizes the U.S. dairy's industrywide efforts to address sustainability in a way that is economically viable, environmentally sound, socially responsible and dedicated to producing healthy foods. Many of the best practices and technologies that the Innovation Center for U.S. Dairy is researching and sharing with the dairy industry are innovations that make efficient use of resources, reduce waste and promote energy management. All of these aspects are crucial for dairy businesses to optimize their operations.

Q: How are the farmers responding to this sustainability initiative, especially while they are dealing with their own economic crisis?

A: Sustainability and economic viability go hand in hand. The Innovation Center for U.S. Dairy is helping farmers with solutions that are both good for the environment and good for the continued growth of their business.

Q: How can farms with more than 1,000 be sustainable?

Regardless of size, best practices for sustainability can be applied on any farm. Large farms are also key candidates for anaerobic digestion, which provides renewable energy power the farm and neighboring homes. On my farm.....

Carbon Footprint / LCA

Q: What is the carbon footprint for dairy?

A: The Innovation Center for U.S. Dairy is currently measuring the carbon footprint of fluid milk by doing a lifecycle assessment (LCA). The LCA measures the carbon footprint from farm to table, beginning with growing feed for dairy cows, and ending with disposal of the dairy product's packaging. With that data we can own and measure our impact across the entire supply chain, and then adopt best and next practices to reduce our carbon footprint.

In the meantime, the Applied Sustainability Center at the University of Arkansas estimates that the U.S. dairy industry contributes less than 2 percent of total U.S. greenhouse gas emissions. While the LCA work is under way, we have launched a sustainability initiative to identify opportunities to reduce GHG emissions. Our goal is to reduce that by 25 percent by the year 2020. That amount is equivalent to taking more than 1.25 million cars off the road every year. (Source: EPA reference data, February 17, 2009; +/- 10%.)

Q: How did you arrive at the 2 percent estimate if the lifecycle assessment has not yet been completed?

A: The University of Arkansas reviewed many documents and existing research from sources such as the Environmental Protection Agency, the U.S. Economic Census and the Intergovernmental Panel on Climate Change that have evaluated individual segments of dairy production. For example, they used data about feed production, calculations of fuel and energy consumption at processing plants, and existing research about methane production from livestock. Using these figures, the researchers estimated the dairy industry's total emissions in the context of established estimates of the U.S.'s total emissions. The final life cycle assessment, which will focus on the footprint for U.S. fluid milk only, will be published and peer-reviewed to validate this number, but researchers do not expect much variance.

Q: Isn't most of your carbon footprint attributable to cows?

A: Yes, the majority of the dairy industry's greenhouse gas emissions come from the cows themselves. The Innovation Center for U.S. Dairy is currently researching ways to decrease methane production in dairy cows through feed efficiency. The Innovation Center also is researching ways to prevent methane from going into the atmosphere by testing methods to keep methane locked underneath soil during the irrigation process and utilizing methane as an energy source through anaerobic digestion.

Q: What are the major sources of greenhouse gas emissions for dairy?

A: A scan-level footprint based on a review of major greenhouse gas studies in the dairy industry suggests that the U.S. fluid milk supply chain creates 28 million metric tons of carbon dioxide equivalents each year. The Applied Sustainability Center at the University of Arkansas estimates this is less than 2% of total U.S. greenhouse gas emissions. Crop and milk production make up the majority of emissions. This is typical of life cycle assessments (LCAs) where the early steps in the value chain require extraction or use of natural resources, thus have larger GHG emissions. While the steps further down the value chain (processing, packaging, transportation) may have smaller relative contributions, they are still significant portions of the footprint. Preliminary estimates (pending completion of the LCA) are:

Crop production = 21% of total carbon footprint of fluid milk
Milk production = 59%
Processing = 7%
Packaging = 7%
Transport and Distribution = 3%
Retail = 3%

Q: What about data from earlier studies suggesting that the livestock industry contributes 18 percent of the world's carbon emissions?

A: Contact the Food and Agriculture Organization (FAO) for specific information on their report, which suggests that the entire livestock sector — more than just dairy cows — contributes 18 percent of emissions globally. In the United States, the Applied Sustainability Center at the University of Arkansas estimates the dairy industry contributes less than 2% of total U.S. greenhouse gas emissions. This takes into account the common practices of the U.S. dairy industry across the dairy value chain. (Reference: FAO “Industrial Livestock Production and Global Health Risks”)

Q: Why are you only studying fluid milk? Dairy includes milk, cheese and other products.

A: We think it is important to have this data for all dairy products, and we have just begun work on the LCA of cheese. Other studies will likely occur in the future.

Q: Why has the industry waited until now to begin reducing its environmental impact?

A: Actually, the dairy industry has long understood the importance of protecting natural resources while producing and delivering naturally nutritious, fresh products. According to Cornell University, over the past 60 years the dairy industry has reduced the carbon footprint of its products by 63 percent thanks to improvements in animal genetics, feeding rations, animal health programs, cow comfort and overall farm management practices. In fact, more milk is produced today with only 9 million cows than with 26 million cows in 1944. We've been able to produce much more milk with far fewer cows due to innovative practices that may seem commonplace today. Examples include animal nutrition, breeding, and barn design. (Source: Judith L. Capper, Roger A. Cady, and Dale E. Bauman, Journal of Animal Science. Published online first on March 13, 2009.)

Q: How will you reach your goal to reduce greenhouse gas emissions?

A: The industry developed a roadmap that contains 12 initial projects that will help reduce GHG emissions by 12 percent – nearly half of the industry's overall goal of 25 percent reduction by 2020. These projects include adopting best and next practices along every step of the dairy value chain in energy efficiency, manure management and recycling, transportation efficiencies, packaging innovations, and nutrition management.

Q: How does dairy's carbon footprint compare to other industries or countries?

A: Our focus is specifically on the U.S. dairy industry, so I would not be able to comment on other industries or countries.

Q: Isn't methane one of the largest and most potent contributors to global warming?

A: According to the U.S. Environmental Protection Agency methane, which occurs from

agriculture, landfills and livestock, makes up 14.3 percent of global greenhouse gases. In comparison, tailpipe emissions make up 13.1¹ percent of global GHG emissions, and it is estimated that the United States makes up 12 percent of global GHG emissions¹. The U.S. dairy industry, which contributes far less than 1 percent (approximately 0.2 percent²) of global GHG emissions, has identified many ways to reduce the amount of methane emitted into the atmosphere as a result of dairy farming. The Innovation Center is currently researching ways to decrease methane production in dairy cows through feed efficiency; testing methods to keep methane locked underneath soil during the irrigation process; and utilizing methane as an energy source through anaerobic digestion.

Project Plans

Q: How did you calculate that your projects would create a conservatively estimated \$238 million in business value? Can you provide examples?

A: Business plans were developed for each project, and the Innovation Center used a rigorous project review process to evaluate the potential risks and opportunities of each project. Business value was conservatively estimated based on the best information available at the time. Examples:

Milk Production

The Farm Energy Audit Program is expected to drive approximately 600 audits annually, for a total of 7,200 audits conducted by 2020. This is estimated to result in energy savings by 2020 of approximately \$5 million annually, with corresponding annual emissions reduction of 50,000 metric tons of carbon dioxide equivalent.

Processing

D-CREE- estimates at least 8% carbon dioxide equivalent reductions of more than 400,000 metric tons and energy cost savings of \$45 - \$50 million based on national average prices for electricity and natural gas.

Next Generation Clean-In-Place – Estimates nearly \$12 million in energy savings.

Project descriptions are available with more details on our assumptions.

(Source: Dairy Industry Roadmap to Reduce Greenhouse Gas Emissions and Increase Business Value, December 2008.)

Dairy and Health

Q: Are cow growth hormones/rbST responsible for the lower carbon emissions that the industry has experienced?

A: We have lowered carbon emissions by producing more milk with 9 million cows today than we did with 26 million cows in the past. RbST is just one of the many ways that farmers can choose to boost their milk production. The historic reductions for lowering carbon emissions are largely due to improvements in animal genetics, feeding rations, animal health programs, cow comfort and overall farm management practices.

¹ http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf, figure 2.1

² University of Arkansas

Q: How have you been able to produce more milk with fewer cows?

A: To ensure a plentiful milk supply, some farmers have used nutrition management to boost their herd's milk production. Innovations that produce more milk with fewer cows serve a dual purpose because they reduce the carbon footprint of a gallon of milk and they expand our ability to feed a growing world population with finite resources.

Q: Are cow growth hormones safe?

A: The FDA and other public health organizations have affirmed that milk from rbST-supplemented cows is safe. Scientific studies conclude that there is no significant difference between the milk from cows that are given rbST and milk from cows that are not. (Source; Vicini J. et al. Survey of retail milk composition as affected by label claims regarding farm-management practices. Journal of the American Dietetic Association. 2008;108:1198-1203.)

Q: Wouldn't consumers be able to help reduce the dairy industry's carbon footprint by reducing their intake of dairy products? (Question may reference "low-carbon" diets)

A: When making food choices, it's important to have a holistic perspective that takes into consideration the health and well-being of the person and the planet.

Dairy foods deliver a unique package of nine nutrients essential for human growth and development. When consumed as part of a healthy diet, dairy foods not only improve overall diet quality, but they can help to reduce the risk of osteoporosis, hypertension, obesity, colon cancer and metabolic syndrome, a cluster of conditions that can lead to heart disease and type 2 diabetes.

Since Americans on average are only consuming about half the recommended dairy servings, reducing dairy is inconsistent with longstanding public health recommendations to consume adequate amounts of dairy and protein as part of a balanced diet.

The National Dairy Council has extensive research available supporting the benefits of including dairy products as part of a healthy diet and lifestyle.

The dairy industry is also committed to preserving the health of the planet. The Applied Sustainability Center at the University of Arkansas estimates that the U.S. dairy industry contributes less than 2 percent of total U.S. carbon emissions. Our goal is to reduce the carbon footprint of fluid milk by 25 percent by the year 2020.

Dairy and the Consumer

Q: Are consumers demanding more sustainable products?

A: According to a recent study by the Hartman Group, three out of four consumers consider sustainability at least sometimes when making purchases. This is just one of many studies we have seen demonstrating this demand. We have also been closely monitoring the significant media attention surrounding "green" and environmentally friendly products. (Source: The Hartman Group Sustainability 2008 Survey, Sept. 2008)

Q: Is organic milk more sustainable than regular milk?

A: We suspect there is no significant difference but the industry has engaged the Applied Sustainability Center at the University of Arkansas to conduct the first-ever lifecycle assessment (LCA) for fluid milk. The study will measure GHG emissions across the entire dairy supply chain, from farm to table. The data will help us understand any differences between organic and conventional milk production.

Dairy and Current Industry and Sustainability News

Q: How are the farmers responding to this sustainability initiative, especially while they are dealing with their own economic crisis?

A: Sustainability and economic viability go hand in hand and so the Innovation Center for U.S. Dairy is helping farmers with solutions that are both good for the environment and good for the continued growth of their business.

Q: How does the dairy industry respond to the Sustainable Product Index announced by Walmart?

A: The entire dairy industry — from farm to table — is taking steps to understand its own carbon footprint, assess what consumers want and continue to provide nutritious products in a way that is good for the planet and for our communities. We are pleased to work with Walmart as part of this industrywide effort.

Q: How will the Sustainable Product Index positively or negatively impact the dairy industry's efforts in sustainability over the past year?

A: The dairy industry's research confirms that consumers want more information about the products they buy, and Walmart's Sustainable Product Index is one way to do that. In anticipation of this, the dairy industry has been working with the Sustainability Consortium and Manomet Center for Conservation Sciences to develop a beta scorecard that meets both consumer and industry needs, and research has been underway since 2007 to provide the sound science needed for accurate and transparent information.

For instance, we are conducting a life cycle assessment (LCA) for fluid milk and cheese. Through this industrywide effort, we are striving to create a standard for the dairy industry that assists individual dairy companies to measure their environmental impact and share sustainable best and next practices.

Dairy and Government

Q: What is your opinion on mandated labeling /certification that would list the carbon footprint of products?

A: There are many questions regarding this issue including how to ensure that the certification is science-based and consistent from product to product. Our goal with the dairy industry LCA is to quantify our own carbon footprint so we can understand it, own it and reduce it.