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Got milk? Got sustainability

Gail Barnes, vice president, technology and packaging, Dairy Management Inc. Source: Innovation Center.

Among the six educational sessions presented at the International Dairy Show by the Innovation Center for US Dairy, a session entitled, "Reducing the Carbon Footprint of Fluid Milk in the US and Generating Business Value," previewed findings from the Center's recently completed fluid milk carbon footprint study. The study, released in late September, serves as the foundation for farmers, processors and others throughout the dairy supply chain to continue their commitment to sustainability's "triple bottom line." Sustainability's triple bottom line refers to economic, social and environmental benefits, says Gail Barnes, vice president, technology and packaging, Dairy Management Inc., a founding organization of the Innovation Center.

In the study, researchers followed the journey of a gallon of milk from the beginning of the lifecycle when crops are grown to feed cows; milk is produced and delivered to processors; through processing, packaging and distribution; all the way to the purchase and disposal of the gallon of milk by the consumer. The completion of the study is a significant first step for the dairy industry in a comprehensive, science-based approach to measure and improve its environmental footprint.

The carbon footprint study, together with data from additional studies measuring greenhouse gas (GHG) emissions, helps validate total US dairy GHG emissions are approximately 2 percent of total US emissions. This is far less than earlier figures reported about the global livestock industry that were incorrectly attributed to US dairy, according to Barnes.

The carbon footprint study identifies opportunities for efficiency and innovation across the fluid milk supply chain, including feed efficiency, manure management, energy management and fuel efficiency. A key finding indicates management practices are an important driver of the carbon footprint for farms, plants and transportation fleets, rather than the geographic region, business model, or size of the farm or organization.

The carbon footprint study will be published in a peer-reviewed scientific journal in 2011. In addition, studies on nutritional value, economic impact and other environmental measures such as water quality and conservation are underway as the industry seeks more ways to work together for a healthy planet, says Barnes.

Ten projects are underway, which are expected to reduce the dairy industry's carbon footprint of fluid milk by the year 2020. According to Barnes, the Dairy Delivery Systems Life Cycle Assessment project (LCA) looks at both packaging and processing and finds ways to reduce GHG emissions associated with milk production. It will also assess the GHG impacts of many common existing and emerging packaging formats and associated processing technologies for fluid milk products.

The Innovation Center, established in 2008, focused on six industry priorities at the dairy conference: health and wellness, product development and information, sustainability, consumer confidence, globalization and regulatory issues—excluding pricing. The center's board of directors includes 31 members representing 30 key US producer organizations, dairy cooperatives, processors, manufacturers and brands such as Hilmar Cheese Company, Leprino Foods, Dairylea Cooperative Inc., Anderson Erickson Dairy, Land O'Lakes and Dairy Farmers of America.

For more information on the study and to hear Barnes' comments on the Dairy Delivery Systems LCA project plus an add-on pasteurization process to conventional thermal systems, **download this MP3 file** excerpted from an exclusive *FE* interview conducted during the International Dairy Show on September 14, 2010. Visit the Innovation Center for US Dairy.