

# A look at milk's life cycle

By LEN RICHARDSON

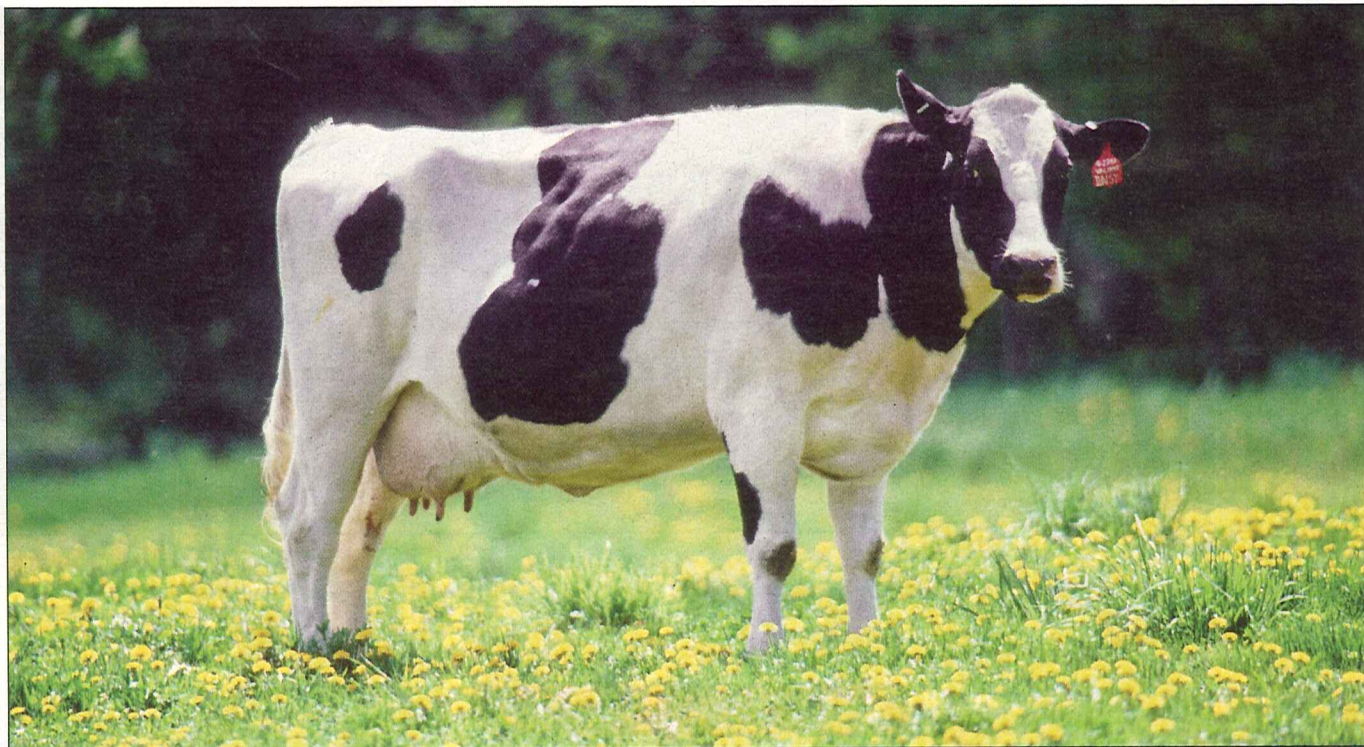
**R**ESearchers have followed the journey of a gallon of milk from the beginning of its life cycle, when crops are grown to feed cows. Next, milk is produced and delivered to processors; processing, packaging and distribution follow. Finally, the consumer purchases, consumes and disposes of it.

This completed a carbon footprint study that measured the greenhouse gas, or GHG, emissions associated with a gallon of milk in the U.S.

### Life-cycle analysis

The Innovation Center for U.S. Dairy commissioned the University of Arkansas Applied Sustainability Center to conduct the carbon footprint study. Greg Thoma, a professor of chemical engineering at the university and lead investigator, presented the findings at the International Food Life Cycle Analysis Conference.

The study, together with other studies measuring GHG emissions, helps validate that total U.S. dairy GHG emissions are about 2% of total U.S. emissions — far less than earlier figures reported about the global livestock industry, which were in-



**LIFE-CYCLE ANALYSIS:** A new study followed the journey of a gallon of cow's milk from the beginning of its life cycle, when crops are grown to feed cows. Then, milk is produced and delivered to processors. Next, it is processed, packaged and distributed before the consumer purchases, consumes and finally disposes of it.

### Key Points

- Researchers followed the life cycle of a gallon of milk.
- Greenhouse gas emissions linked to a gallon of milk were measured.
- U.S. dairy GHGs make up approximately 2% of U.S. GHG emissions.

correctly attributed to U.S. dairy.

"The entire dairy industry — dairy producers, processors, manufacturers and brands — is working together to build on its long history of sustainability. We are committed to providing the nutritious dairy products consumers want in a way that makes the industry, people and the Earth economically, environmentally, and socially better, now and for future generations," says Thomas P. Gallagher, CEO of the Innovation Center for U.S. Dairy and Dairy Management Inc., which manages the dairy checkoff on behalf of U.S. farmers.

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.

"I am pleased that hundreds of America's dairy farmers completed detailed surveys about their farming practices in order for us to create this assessment," says Jerry Kozak, National Milk Producers Federation president and CEO.

### Trend toward beneficial changes

Dairy businesses across the country are already making changes that are environmentally and economically beneficial.

One example is Aurora Organic Dairy

in Boulder, Colo. Some practices include:

■ A manure dry-vac replaces water flush, saving 400,000 gallons of water per year. All of the of milk parlor wash water is recycled for crop and pasture irrigation.

■ Compost is used to improve soil and nourish crops.

■ A processing plant was built using LEED (Leadership in Energy and Environmental Design) certification guidelines for energy-efficient lighting; and variable-speed and high-efficiency motors, heat exchangers and insulation.

In 2008, Aurora Organic Dairy partnered with the University of Michigan's Center for Sustainable Systems to launch a life-cycle analysis of the dairy's operation from seed to shelf. Because the dairy is vertically integrated, it has the opportunity to control all aspects of production and processing.

Another example is Prairieland Dairy, Firth, Neb., which practices a zero-waste philosophy. Byproducts from local food processors contribute to cow diets, including distillers grain, leftover cereal mix and spent brewer's grain from a nearby microbrewery. Prairieland's compost operation makes fertilizer from cow manure and local organic material, which is used on the farm and by local gardeners.

Read more at [www.usdairy.com/](http://www.usdairy.com/)

## Attention Beef Producers

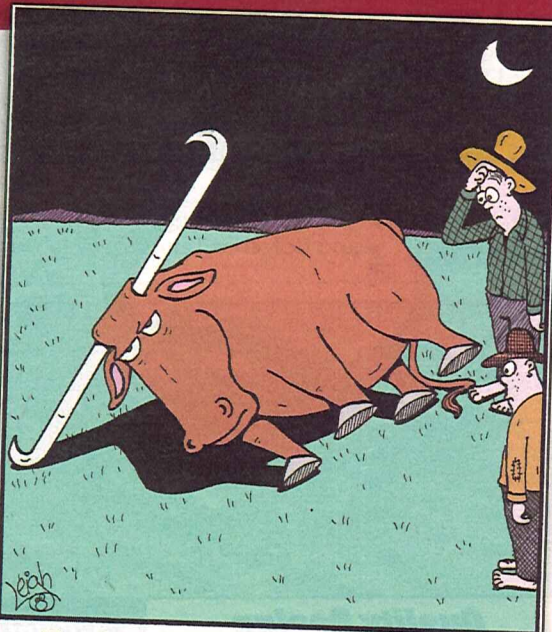
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