



Greener pastures

John Maday | Wednesday, October 06, 2010

This week, several hundred scientists and other delegates from around the world gathered in Banff, Alberta, for the 4th [International Greenhouse Gases and Animal Agriculture Conference](#). As the title implies, the conference focuses on the role of livestock in GHG emissions and strategies for improvement.

The very subject might sound threatening to producers accustomed to attacks, often based on misinformation, from environmental groups and others. But, news coming out of the GGAA conference, and other recent developments, indicate the industry is making significant progress both in the scientific and public-opinion arenas.

For several years, environmental activists successfully cultivated the belief that livestock production is a major contributor to GHG emissions, and that it could only get worse. The only way to rescue the planet from those emissions, they shouted, was to reduce or eliminate global consumption of meat and dairy products.

Today, opinions are shifting toward an understanding that:

1. Livestock production does not contribute as much GHG emissions as some earlier reports indicated.
2. Continued scientific development and application of technologies can make livestock production even more efficient and environmentally friendly.

Speaking at the Banff conference, GGAA President Dr. Junichi Takahashi, of Japan's Obihiro University of Agriculture and Veterinary Medicine, said "meeting this challenge will take continued progress and collaboration among scientists internationally, and collective action by industry and government. But there is no doubt, with the science progress we will see showcased at this conference, the opportunities are there. We are on the right path."

Modern production techniques clearly play a key role in that progress. According to conference speaker Dr. Frank O'Mara of the Irish Agriculture and Food Development Authority, livestock's contribution to total global greenhouse gas emissions currently ranges from eight to 10.8 percent. He adds though, that the four most efficient regions – Eastern and Western Europe, North America, and the non-EU former Soviet Union – produce 46.1 percent of the world's ruminant meat and milk and only 25.5 percent of enteric methane emissions. The three least efficient producers – Asia, Africa and Latin America – produce 47.3 percent of ruminant meat and milk but 69 percent of enteric methane emissions.

Dr. Frank Mitloehner, from the University of California – Davis, also has conducted research on livestock's contribution to GHG emissions. Speaking at the Beef Industry 2010 Summer Conference, he effectively debunked some key assertions in "Livestock's Long Shadow," the infamous 2006 report from the UN's Food and Agriculture Organization that claimed livestock production produces more GHG emissions than the global transportation. Mitloehner demonstrated how the report's conclusions were inaccurate and misleading, something even its authors have since admitted.

He also pointed out that in some developing countries, large-scale deforestation for agriculture accounts for much of the emissions attributed to livestock. At the same time, transportation and other industries are less developed in these countries, meaning livestock's contribution to their total GHG emissions is relatively large. In developed, industrial countries the opposite is true. In the United States, Mitloehner says, transportation accounts for at least 26 percent of GHG emissions and electricity 31 percent, compared with roughly 6 to 8 percent for all of agriculture, which includes less than 3 to 4 percent associated with livestock. "Livestock production in the United States is a model for the rest of the world due to efficiencies," he concludes.

At the same conference Washington State University's Dr. Jude Capper presented results of a complete "life-cycle analysis," calculating all the inputs needed to produce a unit of beef. Her results show that nearly any way you measure it, higher productivity reduces the environmental impact of beef production. Capper concludes that better productivity from improved genetics, nutrition and management have considerably reduced the environmental impact of beef production over the past 30 years.

You can read more about the Mitloehner and Capper presentations in an article titled "[Fading footprint, shrinking shadow.](#)"

So we're making progress, but the industry isn't standing still. In January 2009, the Innovation Center for U.S. Dairy -- which represents approximately 80 percent of the dairy industry -- endorsed a voluntary goal to reduce greenhouse gas emissions of fluid milk by 25 percent by 2020. At the same time, the industry commissioned a greenhouse [gas life cycle assessment for fluid milk](#). Researchers from the University of Arkansas and Michigan Technological University recently released the report, identifying where the industry can innovate to reduce GHG emissions across the supply chain.

The study highlights manure management, feed production, and enteric methane as three areas for innovation research, and the report notes that as the industry moves to meet its 2020 goals, progress can be assessed against the baseline levels this study identified.

As Mitloehner said, livestock production in the United States serves as a model for the world in terms of environmental stewardship and sustainability. Scientific advancements in production efficiency got us to where we are, and will continue to help us improve as we work to produce more food with fewer resources and less environmental impact.