Dairy Carbon Footprint Dropping

URBANA, ILL.

Improved efficiency in the production of milk has resulted in a huge reduction in the dairy industry's carbon footprint, making it very "green," said a University of Illinois Extension dairy specialist.

"Using 1944 as the base year of comparison – and also the year of the largest number of dairy cows in the United States, the number of dairy cows has dropped from 25.6 million to 9.2 million cows while milk production has increased from 117 billion pounds to 186 billion pounds," said Mike Hutjens.

"Using pounds of carbon dioxide per gallon of milk as the carbon footprint value, the dairy industry's footprint has dropped from 31 pounds in 1944 to 12 pounds per gallon in 2007."

Dairy cattle's environmental impact continues in the news as global warming concerns are raised due to methane production and carbon dioxide relationships involved in the industry, he said.

"Dairy cows produce methane when digesting feed in the rumen. Methane has 25 times the impact of carbon dioxide," he said. "While a wide range of claims have been made, 6 percent of the total carbon footprint is from agriculture with dairy responsible for 11 percent of the total 6 percent, or 0.7 percent of the total."

Earlier this year, the National Academy of Science published a paper that addressed the improvement of milk production efficiency and the impact of organic dairy production compared to conventional production.

"The paper showed that if one million of the total nine million U.S. dairy cows produced 10 pounds more milk per day due to the adoption of technology, a number of positive impacts could be expected," said Hutjens.

"It would reduce by 157,000 the number of cows needed to produce the same level of milk. It would reduce by 219,000 hectares the land needed for feed production. It would reduce the emission of methane by 41 million kilograms annually. And it would reduce manure excretion by 2.8 million tons each year."

Switching to organic milk production would require 25 percent more cows than now used, 30 percent more land for feed production, 39 percent more nitrogen excretion, and a 13 percent increase in global warming potential.

What does this mean to consumers?

"For consumers, it means a careful analysis is required to determine if carbon footprint and global warming applications are more important than denying technology applications, especially when that technology does not change nutrient content of food or impact animal health," he said.

"For dairy managers, increasing milk production efficiency will reduce carbon footprint, improve nitrogen efficiency, and reduce global warming. Dairy managers who do this are increasingly more 'green.'"

The bottom line, Hutjens aid, if that when it comes to the environment, using fewer resources to produce more food will improve the carbon footprint. Δ