

CAROL'S ENERGY NOTES

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Got sustainability? Part 2. Greenhouse gas output of 1 gallon of milk=1 gallon of gasoline.

This is Part 2 of my notes from a conference "Profitability & Environmental Sustainability in the Dairy Industry" in Madison, Wisconsin.



Greg Thoma's greenhouse gas accounting on dairy

Greg Thoma is a professor of chemical engineering at the University of Arkansas in Fayetteville who has conducted a lifecycle assessment of fluid milk. His data will eventually be made public, but for the moment, it is considered privately commissioned property for Dairy Management, Inc which paid approximately \$390,000 to generate it.

Given that his data is coming out of one of the two universities that is on Walmart's Sustainability Consortium, and that dairy products are one of the first categories to be sized-up by Walmart's consortium, ***start a google alert on Mr. Thoma if you are in the dairy industry and you don't already have one.*** He is helping to formulate a scientific lingua franca that is defining the new carbon-based economy in dairy. (*And in pork.* A GHG slideshare presentation is [HERE](#).)

The LCA or "lifecycle assessment" is one linchpin tool used in carbon accounting and is therefore one of several methods to offer inputs for use in future U.S. cap and trade.

The problem in front of greenhouse gas accounting of dairy: where do you start the accounting for what goes into a gallon of milk and where do you end it?

According to the Wall Street Journal, a UK accounting of milk GHGs concluded that 1 pint of whole milk generates the equivalent of 2 pounds of carbon dioxide. This figure is being printed right now on cartons of mega-brand Tesco's milk in the UK. However, a U.S. dairy industry study came up with 15% less GHG output for roughly the same size container of milk.

Cows put out a lot of methane. Grass feeding helps.

Thoma's studies revealed that ***milk production itself*** is the key releaser of greenhouse gases by far in dairy products – not energy used to pump heavy milk on site, for example, or fuel used to truck milk. Maybe this

is not too surprising given that we already know that each cow in the U.S. puts out between 200 and 400 pounds of methane per year, chiefly through burping.

In a 1999 study, Stonyfield yoghurt also found that of all dairy processing activities, it was the cow itself that emitted the bulk of greenhouse gases in milk production. (Incidentally, Stonyfield-funded research is finding that switching cows to grasses that naturally contain Omega-3 reduces methane output by 18%).

In his presentation at the dairy conference, Thoma said that a true life cycle assessment takes into account all inputs from cradle to grave, and has ISO compliance.

Got 1 gallon of milk. Got 1 gallon of gasoline exhaust.

After what seemed like a protracted Q&A session, Thoma said that the bottom line is that if you add up all of the emissions that can be linked to 1 U.S.-produced gallon of milk, you get about the same amount of greenhouse gas output as you do while using 1 gallon of gasoline, as in the case of driving a car 20 miles.

Thoma paused and must have seen a quiet and blank-faced audience looking back. He then said, “That is GOOD news.”

At the moment I felt relieved that the rest of the audience also had no idea how much greenhouse gas was supposed to be tied to a gallon of milk either. But I also didn't think that 1 gallon of gasoline's worth of pollution for 1 gallon of milk sounded great, either.

But what is our reference point?

In that moment I could empathize a little with business people who are scared of the game-changing nature of greenhouse gas accounting. Nobody knows how the consumer will react to how much carbon is “in” a gallon of milk, and carbon accountants don't all agree with each other.

If you couldn't make it to the Madison dairy event, you could still make it to the [April International Dairy Foods Association \(IDFA\) event in Chicago April 14-15](#).

That's all the time I have for dairy today. Parts 3 and 4 of this post will be on:

- the sustainability systems put into place on the Crave Brothers and Adamski farms
- Donna Berry's presentation, “Bragging Rights: Use the Package to Convey Sustainability Efforts”

Here's a link to [Got sustainability? Part 1](#) if you missed it.

Click [here](#) to view the online version.