The Green Mien
A KNOWLEDGEMOSAIC® BLOG

Anaerobic Digesters To Tackle the Dairy Industry (Do They Need Lactaid?)

Posted February 14, 2011
by Green Mien in Agriculture, Anaerobic Digestion, Biogas, Climate Change, Greenhouse Gas Emissions, USDA. Leave a Comment

Just a few short months ago, the Innovation Center for U.S. Dairy (the "Center") published their first Sustainability Commitment Progress Report.

The report was born out of a sustainability commitment launched by the dairy industry in 2007 and, while it aims to cover sustainability broadly – and annually – in the future, the current focus is on greenhouse gas emissions. (A quick glance through the report suggests little more than a glorified milk ad, but some of the aesthetically pleasing charts do have substantive data. At least two infographics are in the shape of milk jugs.)

Back in the summer of 2008, a U.S. Dairy Sustainability Summit resulted in an "industrywide, voluntary goal" to reduce GHG emissions for "fluid milk" by 25 percent by the year 2020. If a nice, cool glass of the white stuff doesn't already give you gas, consider this: from farm to table, a gallon of milk has an average carbon footprint of 17.6 pounds of carbon dioxide equivalents. The same data has shown that the dairy industry is responsible for a full 2% of the total GHG emissions in the US.

Luckily the dairy industry sees in this disturbing revelation a good business opportunity:

“Research shows that many frequent milk users — people who drink milk at least once per day — are concerned with their personal impact on the environment, and may even increase their consumption of milk if they believe it is not only healthy, affordable and good-tasting, but also responsibly produced.”

So they made an honest commitment of their goal in late 2009, when the Center signed a Memorandum of Understanding (MOU) with the USDA, pledging cooperation and establishing a roadmap and process with which to reach the 25% reduction in GHG emissions by 2020.

One particular focus of the MOU was anaerobic digestion. Anaerobic digester technology is, according to the USDA press release, “a proven method of converting waste products, such as manure, into electricity.” (The captured methane – a powerful greenhouse gas – is also thus prevented from entering the atmosphere.) Digesters use microorganisms to break down organic material in the absence of oxygen, and a waste product of the digestion is biogas, which can then be used as a fuel. Though dairies that have digesters can generate enough electricity to power up to 200 homes, apparently only 2 percent of operations that could be using the technology have implemented it.

As much fuss as the digesters were given in the wake of the MOU, the 2010 sustainability report only touches on them briefly. It points out the benefits (the electricity created can be used *on* the farm, as well as sold for profit, *and* the anaerobic digestion process can reduce “odors normally associated with manure”), but it’s also quick to point out the obstacles, such as “high-capital outlays, regulatory barriers, low renewable energy prices and limited financing programs.”

Still, attendees at another dairy industry summit in 2009 set a 2020 goal of putting 40 percent of all manure from New York dairy farms through the anaerobic digestion process.

I’ll drink to that!