

Dairy Cows, Methane and Global Warming

Discussions about the environment or global warming all too often end up focusing a blame for greenhouse gas emissions of methane on dairy farms and dairy cows. There is a long line of antagonists who appear to be on a rhetorical mission of focusing blame for every one of the world's environmental problems on agriculture. Even farmers practicing one type of agriculture are on the lookout for new ways to claim that their farming process is superior or more environmentally friendly than anyone else's. But those claims more often than not are based on misinformation or emotion -- and not on science.

Even highly regarded journalists and reporters are not immune to referencing cow belching when reporting on methane's role in global warming. That would be fine if it was true, but it is not. There is no argument that Methane CH⁴ is a very potent greenhouse gas and Wisconsin's dairy farmers will accept responsibility for the relatively small amount of methane produced by their cows.

An important part of this discussion is distinguishing between natural and anthropogenic or human sources of Methane. The major natural sources of methane in order of quantity are: natural wetlands which are responsible for 76% of global Methane emissions; termite digestion accounts for 11%; the ocean's organisms, sediment and fish are responsible for 8%; and methane hydrates (which are solid deposits of methane) are about 5%.¹ Note that native mammals never even made the list, which is important when considering the following information.

Long before European settlement of North America, bovines were belching methane and a lot of it. While early settlers nearly hunted them to extinction, we can't ignore the fact that tens of millions of buffalo spent their days ruminating and belching methane across the Great Plains for millions of years before humans even appeared on the landscape. Buffalo were not the only native pre-settlement bovines producing methane. Others included wild sheep, goats and approximately 30 million deer that were also contributing methane.

According to the Environmental Protection Agency², there are 100 million cattle in the United States. These cattle emit about 5.5 million metric tons of methane into the atmosphere each year, accounting for 20% of U.S. anthropogenic methane emissions, which includes manure management. Based on the EPA report "Inventory of US Greenhouse Gas Emissions and Sinks: 1990-2004", beef cattle (not dairy cattle) are the largest contributor of CH⁴ emissions from domesticated bovines, accounting for 71% in 2004. Dairy cattle accounted for 24% and the remaining emissions were from horses, sheep, swine and goats.

Clearly dairy cows are a source of CH⁴, but according to the EPA, all cattle are responsible for just 20% of the man-made methane production in the U.S. And, as noted, dairy cows are responsible for 24% of that 20% -- which is 4.8% of all the methane in the U.S. attributable to human activity. Dairy farmers are good stewards of the land and our environment. Generally, emissions from cows have been decreasing mainly due to decreasing populations of both beef and dairy cattle and improved feed quality for feedlot cattle.

¹ <http://www.brighthub.com/environment/science-environmental/articles/16692.aspx>

² <http://www.epa.gov/rlep/faq.html>