Benefits of Managing Methane Emissions from Dairy Cows

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Methane produced by the cow represents a loss of energy from the feed. Up to 12% of the energy in feed is converted to methane gas in the rumen when it is digested by the cow. Because methane is not used by the cow for milk production, methane gas is a loss of feed energy that could increase feed costs. In addition to improving feed efficiency, reducing methane losses is also an environmentally sound practice. Methane gas in the atmosphere is a potent greenhouse gas that contributes to global warming.

Scientists at the Lethbridge Research Centre have been working together with the Dairy Farmers of Canada to find ways of measuring and curbing methane greenhouse gas emissions from dairy farms. As part of this project, measurements of methane emissions were made on dairy farms in Southern Alberta using sensors positioned downwind from the barn.

In this on-farm survey, methane emissions varied between 438 and 519 litres per day per animal. All cattle on the farm over three months of age contributed to this estimate. Because of their higher feed intake, lactating dairy cows contributed about 600 litres each day.

Implications: The daily methane produced by a dairy animal is equal to the greenhouse gas emitted from a car driven 25 km. Over the course of the year, these methane losses quickly add up. The goal of our research is to make whole measurements of methane emissions and develop mitigation options for dairy producers wanting to take advantage of methane reduction. Controlling the loss of feed energy as methane helps improve efficiency and is an environmentally sound goal for the dairy industry.