Our cows, our air

GREENHOUSE GASES & DAIRY FARMING

ATLANTIC PROJECT

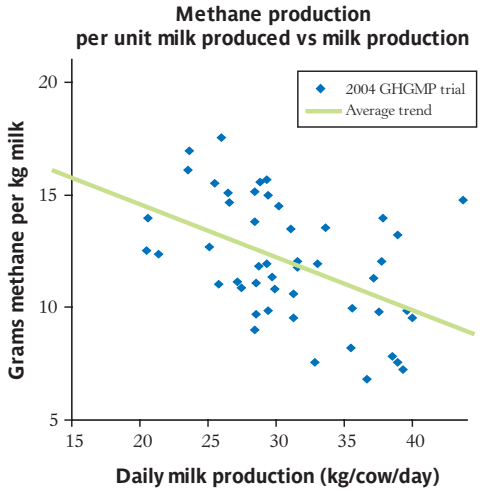
Carried out by reseachers at the Nova Scotia Agricultural College, this project was conducted at Kipawo Holsteins in Grand Pre, Nova Scotia, and Atlantic Dairy Forage Institute in Keswick Ridge, New Brunswick. It sought to demonstrate how methane emissions vary between pasture and confinement feeding. It also looked at which feed supplements (roasted soybeans, candy-factory waste) can potentially reduce methane emissions and improve animal performance.

The formation of methane by the cow is a loss of energy from the feed, accounting for up to 12% of the feed energy. Given that methane gas is not used by the cow for milk production, it represents a loss of feed energy that could increase feed costs.

A small tracer gas capsule was placed in the cow's stomach and its breath was sampled using a special halter. Emissions turned out to be similar whether the cows were grazed or silage fed. However, when whole-farm greenhouse gas emissions were considered (effects of emissions from fuel, electricity, fertilizer consumption, etc.), it was determined that grazing can have lower total emissions than silage feeding.

Even if other studies have shown that dietary fats may reduce methane emissions, the effects of feeding cows roasted soybeans remains inconclusive in this study because the cows did not eat the whole quantity offered to them. And while sugar had no notable effect on methane emissions, investigators did note that the sugar-fed cows produced more milk, proving that there is some benefit to feeding cows moderate amounts of waste sugar.

Cows that on average produce more milk, produce less methane per unit of milk. The best strategy to reduce emissions, therefore, is to feed cows efficiently and keep them as productive as possible. Good breeding, high forage quality, well managed grazing, and precisely formulated rations are all strategies that not only lower greenhouse gas emissions but improve farm profitability.



Special halter used to sample cow's breath for methane emissions