Cattle flatulence doesn't stink with biotechnology

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The agriculture industry is researching new technologies to help feed the growing population. But feeding the world without harming air quality is a challenge.

According to a new article in *Animal Frontiers*, biotechnologies increase food production and reduce harmful gas output from cattle.

"We are increasing the amount of product with same input," said Clayton Neumeier, PhD student at University of California, Davis, in an interview.

In the *Animal Frontiers* paper, Neumeier describes a recent experiment using biotechnologies. In the experiment, a test group of cattle were treated with biotechnologies. Different groups of cattle received implants, Ionophores and Beta-adrenergic agonists. These biotechnologies help cattle grow more efficiently. A control group of cattle were not treated with any of these biotechnologies.

Researchers measured gas output by placing finishing steers in a special corral that traps emissions. Each treatment group was tested four times to ensure accurate results.

The researchers also tested a dairy biotechnology called rBST. This biotechnology is a synthetic version of a cattle hormone that does not affect humans. Many producers inject cows with rBST to help them produce more milk.

In their experiment, the researchers gave rBST to a test group of cows and gave no rBST to a control group of cows. They discovered that the rBST group produced more milk per cow. When cows produce more milk, greenhouse gas emissions decrease because farms need fewer cows.

Dr. Kim Stackhouse, National Cattleman's Beef Association Director of Sustainability, said animal agriculture has reduced emissions through the use of technologies. Technologies that improve animal performance, crop yields, and manure management and the installation of biogas recovery systems have all contributed to reducing the environmental impact of beef.

Biogas recovery systems are used in processing facilities to produce energy from animal waste. Animal waste is collected in lagoons, where the gas is captured. The gas is transported through an internal combustion area that produces energy for heat and electricity.

"I expect there to be more improvement as we continue be more efficient, continue to do more with less and also strive to find new improvement opportunities," Stackhouse said.

Some consumers do not like the use of biotechnology in food production. Neumeier thinks these consumers are unaware of the benefits of biotechnology. His research shows that biotechnology can produce more food and lower gas emissions.

"We need to inform them that these are valuable tools for those two reasons and not be turned off by the use of biotechnology," Neumeier said.

More information: This article is titled "Cattle biotechnologies reduce environmental impact and help feed a growing planet." It can be read in

full at animalfrontiers.org

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