New Paths to Sustainability in Cattle

ANIMAL HEALTH INSTITUTE

The U.S. is home to the world's largest fed-cattle industry, and cattle production is the largest single source of farm cash receipts in America. The beef supply chain is complex and under constant improvement, and these improvements have made the U.S. cattle industry a global sustainability leader.

Consider that ruminants such as cows, sheep, and goats graze on land that is unsuitable for crop production. By using this land for grazing, the industry more than doubles the land area in this country that can be used to produce food. When ruminants are healthy, they more reliably produce the protein and nutrient rich foods that fuel our food supply, making grazing ruminants an efficient way to produce food for humans.

Furthermore, a gallon of milk produced in the U.S. in 2017 required 30% less water, 21% less land and led to CO_2 emissions that were 19% lower than ten years prior.

Meanwhile, between 1977 and 2007, the US beef industry reduced its feed intake by 19%, water use by 12%, and land use by 33%, and cut its CO_2emissions by 16% for every 2.2 billion pounds of beef produced.

The United States produces one-fifth of the global beef supply with less than 11% of the world's cattle herd, according to the global cattle stock as calculated in 2022.

Oxford Analytica analyzed the impacts of the constant improvement and animal health innovations in the cattle industry and found:

CONSEQUENCES OF NOT USING HEALTH INTERVENTIONS

Economic Impact

8%

projected costs of U.S. beef production

The absence of animal health technologies would translate to 8% higher prices for consumers and lower exports for producers.

Land and Water Use

Technologies such as hormones and ionophores improve productivity in beef cattle by promoting growth and reducing resource input. Without these interventions, current beef cattle production levels would require

665K acres
roughly the size of Rhode Island

5.3M liters of water

VALUE OF HEALTH INTERVENTIONS

Methane Emissions Reduction

Adjustments in diet, such as using plant-based additives or reducing protein in feed, can lower methane emissions and nitrogen output, which improves both environmental sustainability and animal efficiency.

22% less methane per cow

Low methane-emitting dairy cows produce 22% less methane than their high-emitting counterparts while showing no differences in food intake or production levels of milk.

30% less methane per unit of milk

Techniques like selective breeding, disease management, feed additives, and dietary changes reduce methane emissions in dairy cattle by up to 30% per unit of milk yielded.

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