RESEARCH

Improving feed efficiency in the cow herd: Individual cow variability in fibre digestibility, feed efficiency, and methane emissions

MEASURING COW EFFICIENCY ON PASTURE

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LEAD RESEARCHER: Katie Wood (University of Guelph)
COLLABORATORS: Jennifer Ellis, Mike Steele (University of Guelph)

Background: The largest cost in cow-calf production is feed, meaning that reducing feed costs is important to overall profitability. Selecting cows that are more feed efficient can help to reduce feed costs. Although significant work has been done on measuring feed efficiency in feedlot settings, there are still challenges to identifying efficient grazing animals, as feed intake on pasture is very difficult to measure. As grazing cows consume high-fibre, lower-quality diets, variation in diet digestibility (the ability of the animal to maximize nutrient absorption from feed), may be underestimated in certain measures of feed efficiency (e.g., residual feed intake) that are predictive for growing animals fed highly digestible diets. Further, individual cows may alter feed intake patterns to adapt to these low-quality diets while maintaining optimal nutrient absorption.

Objective: The objective of this study is to determine the relationship of traditional feed efficiency measures to apparent total tract digestibility (TTD) and determine if TTD can be used to predict cow efficiency.

Implications of the Research: Given the difficulty of determining feed efficiency in grazing animals, another tool to help determine cow efficiency will be useful. At a research level, this information should help to pinpoint various metabolic or physiological factors that influence feed efficiency. If this methodology can eventually be adapted into a practical on-farm measurement, producers may be able to identify more efficient cows on their own operations much more easily.

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