**Rumen Microbes Are Important for Efficient Heifers**

**What is the Rumen Microbiome?**
Comprised of microorganisms including bacteria, protozoa, fungi, and archaea that are responsible for digestion processes, volatile fatty acid production, and microbial protein production.

**What is Feed Efficiency?**
A measure to determine the relative ability of cattle to turn feed nutrients into a high-quality product. These include milk, milk components, weight gain.

**Heifer Feed Efficiency Matters**
As a long-term constituent of the herd, it is optimal to have cows that are able to produce efficient calves and maintain a stable, efficient rumen throughout stages in production.

**Microbes & Maintenance Requirements Are Connected**
Rumen microbial community composition can impact feed efficiency and be influenced by maintenance requirements related to stage of production.*

**Heifer Feed Efficiency & the Rumen Microbiome**
Metabolites related to nutrient signaling and microbial crude protein are correlated with rumen bacteria and improved heifer feed efficiency.*

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*Ruminal Bacterial Communities & Metabolome Variation in Beef Heifers Divergent in Feed Efficiency
Work Supported by the Tennessee Beef Promotion Board