Understanding and improving feed efficiency of beef cows

Project Code: FDE.07.13

Completed: *In Progress. Results expected in March 2016.*

Project Title:

The impact of genomic selection for feed efficiency on the cow-calf sector, performance parameters and underlying biology

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Background

Feed efficiency is one of the most economically important traits in beef cattle production. However, genetic improvements in feed efficiency have been limited and slow, primarily because measuring the actual feed intake of individual animals is extremely labor intensive, time consuming and expensive. A better understanding of how various physiological and metabolic processes influence feed efficiency is important to developing inexpensive, rapid methods of reliably predicting feed intake. Genetic relationships between efficiency and other economically important traits such as health and reproductive performance are also relatively unknown.

Objectives

To develop needed tools and information to allow the beef industry to effectively improve feed efficiency of beef cows

What they will do

Building on research initiated under the first Beef Science Cluster (FDE.06.09), this team will focus on alternative predictors of efficiency, including infrared thermography, blood and fecal hormones and metabolites, rumen microflora (methanogens), liver and muscle histology and calorimetry and DNA markers. This activity will also look at the relationship between feed efficiency and other important production parameters such as cow size, intake, fertility, calf weaning weight, longevity, cow health and calf immune status. This will help determine whether (or how) genetic selection for feedlot efficiency may impact the cow-calf sector.

Implications

The knowledge and tools developed through this research will help the beef industry to better understand the broader benefits and consequences of efforts to genetically improve feed efficiency in the beef industry.

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