Cows for the Future: Breeding for Efficiency

The Challenge
• Feed represents 40% - 60% of on farm costs¹
• Agriculture is responsible for about 10% of Canada’s greenhouse gas emissions²
• Cows that are less feed efficient produce more methane³

The Goal
Improve feed efficiency and reduce methane emissions of dairy cows

The Information

Calf Data
• Body weight at birth, 30 days and 60 days
• Daily milk replacer and pellet intake
• Hair samples for genotyping

1st Lactation Cow Data
• Daily feed intake from 30 days pre-calving to 150 days in milk
• Body weight and body condition score 3x per week
• 20 methane emission measurements per cow, beginning at 120 days in milk
• Milk analysis, internal and external barn temperature, rumination collars

The Impact
• More feed efficient milk production and reduced feed costs
• Decreased environmental impact of the dairy industry
• Creation of the world’s first database for feed efficiency and methane emissions

Take Home Message
• We can select animals that are more efficient at converting feed to milk, while producing less methane
• Through the genotypes we are able to have a better understanding of the biology underlying feed efficiency and methane emissions

Benefits for the Industry

• Cows with improved feed efficiency will benefit producers through more efficient production and reduced feed costs.
• Cows with reduced methane emissions will decrease the environmental impact of the dairy industry
• Stronger competitiveness and increased exports for Canadian AI centers
• Social and economic impact of selecting animals for improved efficiency and reduced emissions

References

Savings of $800 / year⁴
For an average herd of 80 cows

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