

RESEARCH PROJECT – REPORT SUMMARY

PROJECT NAME

Performance comparison of traditional grain finishing to grass finishing using hydroponic grass in beef cattle

REPORT DATE

September, 2022

EXECUTIVE SUMMARY

The main challenge with typical grass-finished beef production systems are limitations inherent in forage growth curves in BC, creating a reliance on dry hay to finish animals often resulting in a lack of fat cover. As a result, the age at slaughter can often be more than 28 months which leads to tenderness issues in the final grass-finished beef product. This project will take a performance and metagenomic approach to evaluate the effectiveness of specific finishing diets in the production of high-quality beef. The basis for one such diet, a hydroponic grass beef ration developed at Bakerview Farm (Hydrogreen supplemented with Whey), has been shown produce grass-finished beef remarkably quick (15 months) without growth promotants that are consistently grading AAA or higher. Meat quality and microbial diversity will be key markers for study to create improved opportunities for beef production in BC.

KEY FINDINGS

The project has one main research activity: a feeding trial that tracks performance of Wagyu and Angus X Holstein cattle being finished on two diets (conventional grain and hydroponic sprout/whey) over 4-6 months. Samples will be collected for each breed and on each diet throughout the trial to identify specific microbial markers using metagenomics that will be correlated with daily performance measurements (ADG and DMI). Beef samples and carcass metrics will be used to evaluate the quality of the final product. After data has been collected and interpreted, the impact of diet and breed on the finished product will be evaluated using a cost-benefit analysis.

COLLABORATORS

Principal Investigator: Dr. John Church (TRU)

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