UNIVERSITY of GUELPH

ONTARIO AGRICULTURAL COLLEGE

DEPARTMENT OF ANIMAL BIOSCIENCES

MSc Defence

Evaluating and Modelling Body Composition and Growth Differences in Holstein
Bull Calves

Sedley Benitz

Date: December 6th 2024 at 12:30am

The MSc Defence for Sedley Benitz has been scheduled for December 6th, 2024 at 12:30am. The defence will be held in room 141 and online via Teams: https://teams.microsoft.com/l/meetup-join/19%3ameeting_ZjQwMTIwMTMtNGNhYS00ZjZiLTlkMDktNWE0ZTZjZjEwZDEw%40thread.v2/0?context=%7b%22Tid%22%3a%22be62a12b-2cad-49a1-a5fa-85f4f3156a7d%22%2c%22Oid%22%3a%22fbd28915-dda5-478f-8ecb-a3682dcf0c3a%22%7d

Examining Chair: Dr. Dan Tulpan

Advisor: Dr. Mike Steele

Advisory Committee Member: Dr. Marcio Duarte

Additional Committee Member: Dr. Katie Wood

Abstract:

This thesis aims to (1) quantify the impact of MR feeding levels in calves on carcass composition and (2) to evaluate a mechanistic model's (SIMON) ability to predict multiple outcomes in diary calves. The calves were fed one of two MR allowances (LOW or MOD) and the carcass composition was analyzed through chemical analysis. The results indicate that elevating preweaning milk replacer consumption can increase carcass fat percentage, carcass weight, viscera weight, protein weight, and dry matter and moisture when expressed as a percentage or in weight. The model was evaluated against 5 published studies as well as against the data collected in Chapter 2. The model was excellent at predicting BW and methane production, did well predicting carcass weight and nitrogen retention, and with further development will be a useful tool to evaluate and develop feeding strategies for calves without the use of animal trials.