UNIVERSITY of GUELPH

ONTARIO AGRICULTURAL COLLEGE

DEPARTMENT OF ANIMAL BIOSCIENCES

MSc. Defence

Predicting body weight with linear body measurements in beef calves

Vanessa Rotondo

Date: September 24th, 2021 at 11:00am

The MSc Defence for Vanessa Rotondo has been scheduled for Monday September 24th 2021 at 11:00am. The defence will be held online via Teams: https://teams.microsoft.com/l/meetup-join/19%3ameeting_Zjk5NzEwMjgtMWM5Ny00NDdlLWE4ZjYtMzczNzNlODExYjU5%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

The exam committee will consist of:

Examining Chair: Dr. Anna-Kate Shoveller

Advisor: Dr. Katie Wood

Adv. Committee Member: Dr. Vern Osborne

Additional Member: Dr. Mike Steele

Abstract:

The objective of the study was to identify body dimensions that correspond to body weight and create a model to estimate calf body weight using linear body measurements, determine if geometric equations to estimate volumes improves model fit, and if early linear body measurements can predict weaning weight. 103 Angus-cross calves were measured weekly from the ages of 2-8 weeks of age using 19 linear body measurements. Models were developed using machine learning approaches and multiple linear regression. Models developed were able to accurately predict BW ($R^2 > 0.9$) from linear traits and found some differences in traits depending on calf sex. The best model to predict weaning weight from early growth data was for males calves ($R^2 = 0.89$). Models presented within the present study can be used for estimating body weight in young Angus crossed beef calves.