

MSc Defence

THE EFFECTS OF FEEDING COLOSTRUM BEYOND DAY ONE OF LIFE ON DAIRY CALF GROWTH,
HEALTH, METABOLISM, AND GUT BARRIER FUNCTION

Hannah McCarthy

Date: September 7th 2023 at 8:00am

The MSc Defence for Hannah McCarthy has been scheduled for September 7th, 2023 at 8:00am. The defence will be held online via Teams and in room 141: https://teams.microsoft.com/l/meetup-join/19%3ameeting_NTA0N2FmODYtOTFmYS00NGJiLWFjZTItZjFkNWl0YTZmMDc0%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. Kate Shoveller

Advisor: Dr. Mike Steele

Advisory Committee Member: Dr. David Renaud

Additional Committee Member: Dr. Vern Osborne

Abstract:

The objective of this thesis was to investigate if supplementing colostrum to calves beyond the first day of life could impact their health, growth, metabolism, and gut permeability during the preweaning period. The first study compared the effects of different colostrum feeding strategies on growth and health factors of preweaning dairy heifers. Replacing part of the milk diet with either 50% colostrum for 2 days or 10% colostrum for 14 days reduced the hazard of diarrhea and mortality, with increased growth at specific time points. The second study investigated the impact of the 14-day 10% colostrum supplementation on metabolism and gut barrier function in preweaning dairy heifers. Overall, colostrum supplementation impacted postprandial insulin kinetics, increasing the concentration and clearance rate of insulin, and reduced gut permeability. In summary, this research provides novel information on the effects of extended colostrum feeding on growth, health, metabolism, and gut permeability in preweaning calves.