UNIVERSITY of GUELPH

ONTARIO AGRICULTURAL COLLEGE

DEPARTMENT OF ANIMAL BIOSCIENCES

MSc. Defence

DIETARY SUPPLEMENTS TO SUPPORT DAIRY CALF HEALTH AND WELFARE

Brooke McNeil

Date: January 9th 2023 at 2:30pm

The MSc Defence for Brooke McNeil has been scheduled for January 9th, 2023 at 2:30pm. The defence will be held online via Teams and in 141: https://teams.microsoft.com/l/meetup-join/19%3ameeting_ZTZjMTIxNzMtYjgxYS00OGFmLThjNTItN2EwNWE5ODc2ZjVl%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. Elijah Kiarie

Advisor: Dr. Trevor DeVries

Adv. Committee Member: Dr. Mike Steele

Additional Graduate Member: Dr. Charlotte Winder

Abstract:

The objective of this dissertation was to investigate if dietary supplements could improve dairy calf health and welfare. The first study was focused on investigating the effects of *Echinacea purpurea* (EP) supplementation on markers of immunity, health, feed intake, and growth of dairy calves. Overall, EP supplementation was associated with blood markers indicative of reduced inflammation and stimulated immunity, with minor benefits to health and growth. The second study was focused on how weaning, as well as supplementing calves with tyndallized *Lactobacillus helveticus* (TLH), affects behavioral and physiological indicators of dairy calf affective state. Overall, there were changes in the behavior of calves at weaning that were indicative of a more negative affective state. Supplementation of TLH was associated with indicators of a more negative affective state, especially during weaning. In summary, this research provides novel information on the effects of dietary supplements on dairy calf health and welfare.