



MSc. Defence

DIETARY PHENYLALANINE REQUIREMENTS OF ADULT CATS AND THE EFFECTS OF DIETARY PHENYLALANINE ON FEED INTAKE, GASTRIC EMPTYING AND MACRONUTRIENT METABOLISM IN ADULT CATS

Jocelyn Lambie

Date: August 16th 2022 at 9:00am

The MSc Defence for Jocelyn Lambie has been scheduled for August 16th, 2022 at 9:00am. The defence will be held online via Teams and room 141: [https://teams.microsoft.com/l/meetup-join/19%3ameeting\\_NTEzZjRkYWQtOTBjZS00MWJkLThlOGMtZjZkY2VmOTVlZDc2%40thread.v2/0?context=%7b%22Tid%22%3a%22be62a12b-2cad-49a1-a5fa-85f4f3156a7d%22%2c%22Oid%22%3a%22fdb28915-dda5-478f-8ecb-a3682dcf0c3a%22%7d](https://teams.microsoft.com/l/meetup-join/19%3ameeting_NTEzZjRkYWQtOTBjZS00MWJkLThlOGMtZjZkY2VmOTVlZDc2%40thread.v2/0?context=%7b%22Tid%22%3a%22be62a12b-2cad-49a1-a5fa-85f4f3156a7d%22%2c%22Oid%22%3a%22fdb28915-dda5-478f-8ecb-a3682dcf0c3a%22%7d)

**The exam committee will consist of:**

Examining Chair: Dr. Marcio Duarte

Advisor: Dr. Kate Shoveller

Adv. Committee Member: Dr. Jen Ellis

Additional Graduate Member: Dr. Adronie Verbrugghe

**Abstract:**

Phenylalanine is an indispensable amino acid for cats and is the precursor for tyrosine, melanin, catecholamines, and thyroid hormones. However, a minimum requirement for phenylalanine has not been defined for adult cats. Additionally, phenylalanine is speculated to stimulate the satiety hormone, cholecystokinin, and delay gastric emptying, but this has not been explored in cats. This thesis investigated the dietary phenylalanine requirement of adult cats using the direct amino acid oxidation technique and sought to determine the effects of phenylalanine on feed intake, gastric emptying, and macronutrient metabolism in cats. The phenylalanine requirement was found to be higher than current recommendations from the NRC and AAFCO. However, phenylalanine did not influence feed intake or macronutrient metabolism but tended to decrease gastric emptying rate. Together, these results suggest that the current proposed level of phenylalanine may need to be increased, and future research is necessary to investigate phenylalanine's role in feline satiety.