

MSc. Defence

The Effect of Early Rearing Environment on Musculoskeletal Traits and Proximate
Composition in Laying Hen Pullets

Erin Ross

Date: August 3rd, 2021 at 9:30am

The MSc Defence for Erin Ross has been scheduled for Tuesday August 3rd, 2021 at 9:30am. The defence will be held online via Teams: https://teams.microsoft.com/l/meetup-join/19%3ameeting_NzE3NzdMWMtZWlyMS00ZGYxLTliZjctOGRkNWE5NTY2Yzkw%40thread.v2/0?context=%7b%22id%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. Tina Widowski

Adv. Committee Member: Dr. Bettina Willie

Additional Member: Dr. Gregoy Bedecarrats

Abstract:

The ongoing shift from conventional cage to alternative housing for layers necessitates a deeper understanding of how commercial rearing systems impact physical development in pullets. My thesis examined the effect of three styles of rearing aviaries, differing in the opportunities for load-bearing exercise available during early life, and conventional rearing cages on musculoskeletal characteristics and proximate composition in two consecutive flocks of Lohmann Brown Lite (B) and Lohmann Select Leghorn Lite (W) laying hen pullets. Aviary-reared birds had stronger radii, humeri, and femora, larger keels, and proportionally heavier flight muscles than those reared in conventional cages. W birds tended to have proportionally stronger femora and tibiae, and larger, more ossified keels, than B birds. The benefits of rearing aviary housing appeared to be broadly realized rather than specific to a particular style. These findings provide further evidence that rearing aviaries profoundly improve pullets' physical development compared to conventional cages.