

MSc. Defence

THE EFFECT OF FEEDING DEOXYNIVALENOL-CONTAMINATED, LOW-COMPLEXITY DIETS TO NURSERY PIGS, WITH OR WITHOUT IMMUNE-MODULATING FEED ADDITIVES

Elise Lafleur Lariviere

Date: September 2nd, 2021 at 10:00am

The MSc Defence for Elise Lafleur Lariviere has been scheduled for Thursday September 2nd 2021 at 10:00am. The defence will be held online via Teams: [https://teams.microsoft.com/l/meetup-join/19%3ameeting\\_NGUxODM0Y2MtMDYxNi00MWY2LTkxZDQtMzcwMDI1YWI0NmYw%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](https://teams.microsoft.com/l/meetup-join/19%3ameeting_NGUxODM0Y2MtMDYxNi00MWY2LTkxZDQtMzcwMDI1YWI0NmYw%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. Katie Wood

Advisor: Dr. Lee-Anne Huber

Adv. Committee Member: Dr. Robert Friendship

Additional Member: Dr. Elijah Kiarie

**Abstract:**

This thesis investigated the use of low-complexity, corn- and soybean meal-based diets in the nursery and assessed the effects of deoxynivalenol (**DON**) contamination and the effects of supplementation with immunomodulatory feed additives, such as a commercial anti-mycotoxin feed additive or fish oil on pig growth performance, gastrointestinal tract morphology, and immune system robustness. In the first week after weaning, both low and high DON-contaminated low-complexity diets resulted in reduced average daily gain and feed intake compared to pigs fed a high-complexity diet. When DON contamination was above 3 ppm throughout the nursery period, feed intake was reduced, resulting in lower body weight gain. Pigs fed low-complexity diets without DON contamination had growth performance not different from pigs fed the high-complexity diet and pigs fed low-complexity diets with no or low DON contamination reached the same bodyweight by the end of the nursery period as pigs fed high-complexity diets. The immunomodulatory feed additive restored humoral immunity when pigs were fed low-complexity diets, regardless of DON contamination and improved certain immune parameters during an acute phase challenge when feeding high DON-contaminated diets. Therefore, it is possible to feed low-complexity diets to nursery pigs without impairing growth performance so long as DON-contamination is below 1.5 ppm, and the immunomodulatory feed additive may improve immune status.