Bachelor or Master thesis BIOVIT 2023/24

Topic/Title (Norwegian)

Vitaminbehov ved nye diettformuleringer

Topic/Title (English)

Micronutrient requirement in Atlantic salmon

Summary

The main topic of the master thesis:

- ***To study how new diet formulations influence vitamin requirements of Atlantic salmon?***

New knowledge about the nutritional requirements of fish and of composition of raw materials, both traditional and novel, leads to a continuous development in the composition of fish feed, both in terms of nutrients and raw material composition. Various recent studies have indicated that the requirement for micronutrients, and especially choline, may be higher than previously thought.

Cargill will conduct a field trial under commercial scale production conditions to confirm previous findings from smaller tank experiments. The sea cage trial will take place at a fish farming site in Hardanger. A total of 6 cages, where 3 cages are given a reference feed, and 3 cages are given the same feed, but with an increased level of micronutrients. Start of trial in April 2024 and end of trial at harvest around March 2025. It is planned to collect data on growth, feed utilisation, fat deposition in various tissues, external welfare indicators and quality of the slaughtered fish. In collaboration with Bente Ruyter at NMBU/Nofima, Cargill are now looking for a master's student who can take a closer look at underlying mechanisms/responses to the different diets.

Background of supervisor team: The Nutrition group in Nofima are working within topics such as alternative feed ingredients, omega-3 requirement, lipid metabolism, fat deposition, pigmentation and muscle quality and fish health. The lipid research group consists of four scientists, one PhD student and one engineer securing a good teaching environment for the master candidates. The master student will under supervision of our research team and the research team of Cargill, study the biological responses to new diet formulations and influence on vitamin requirements .

Type of work: The master thesis will involve both practical collection of samples in the field (fish farm in Hardanger) and analyses in Nofima lab (Ås). The student laboratory work will primarily focus on processing of tissue samples, lipid analyses, gene expression and microscopy analyses.

Subject area (keywords)

Nutrition, lipids, vitamins

Language thesis (Norwegian and/or English)

Optional

Master thesis

Credits

60

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Project/company

Master thesis subject in Cargill in collaboration with Nofima and NMBU

Please contact

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