

Master projects in development of 'seawater ready' smolts in salmon production

Faculty of Biosciences, *Section* - Genome Biology

Development of molecular markers for optimizing production of healthy and robust smolt

Key words: fish physiology, molecular biology, gene regulation

Norwegian salmon farming is facing several challenges, one of which is a ~12-14% loss (death, disease or halted growth) after seawater transfer of smolt (e.g. saltwater 'ready' salmon). Numerous factors are responsible for this loss, but smolt quality and susceptibility to pathogen infection seem to be major contributing factors. This emphasizes that too many fish transferred to seawater in Norwegian salmon farms are not 'optimal smolts' suited for seawater transfer. In this master project you will assess how different rearing protocols (different light conditions) used for smolt production affect smolt development.

In this project you will take part in a large scale smoltification experiment in Tromsø, help sample gill material from 3000 fish, and finally generate gene expression data from a subset of this gill material to test if different smoltification protocols results in different expression profiles of genes involved in the 'salt water readiness' in the gills of salmon.

If you are interested in doing a masters or bachelor thesis with us (also on other topics you know we work on), please contact us: simen.sandve@nmbu.no