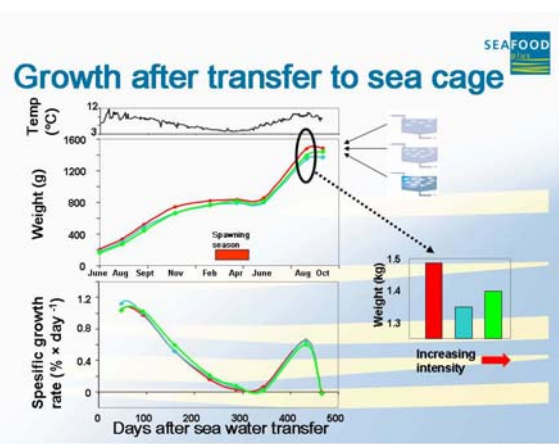
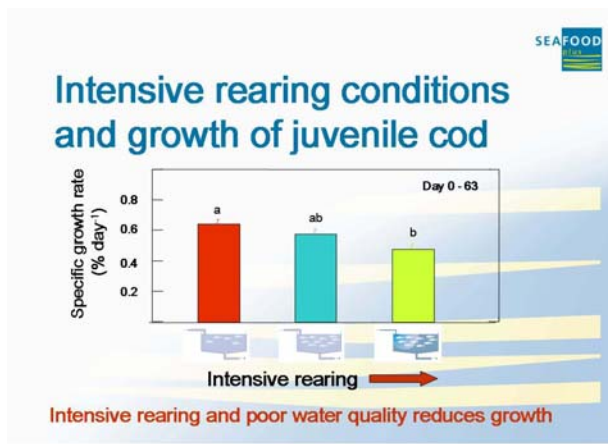


The ETHICOD project - testing ethical cod in a full value chain approach

Presenting author: Hilde Toften co-author: Børge Damsgård
Fiskeriforskning, Norway



Fish welfare and ethical questions about rearing conditions and human slaughter have been increasingly important as a quality trait of farmed fish. The relationships between handling of the fish and the muscle quality traits are however poorly understood. One of the main objectives in the project ETHIQUAL in SEAFOODplus is to examine how husbandry practices and pre-slaughter conditions contribute to the flesh quality and ethical quality of finfish seafood.

In the ETHICOD project, we address these ethical concerns, asking if good fish welfare lead to better quality of farmed fish. The project includes several parts, both biological studies on the effects on the fish, quality studies on muscle quality traits, and consumer studies, asking how the consumers respond on information about ethical husbandry and slaughter of fish. To address these issues we conducted a full scale value chain experiment with Atlantic cod, following the development of individual tagged fish of known genetic background, all the way from small juveniles to slaughter, and afterward to the consumer's fork.

The first part of the experiment is focusing on the water quality and fish density during the early juvenile production period in seawater tanks. The results show that the growth was significantly poorer for the group that was raised intensively. The group that had optimal conditions had 20-30% better growth in the juvenile period. We also found other physiological effects of intensive rearing. We have investigated the consequences of these effects on later on-growing period in sea cages. The sea cage phase of the ETHICOD study was terminated after approximately one and a half year at a size of 1.6 kg. The fish was then slaughter after a period of pre-slaughter stress, and this group was compared with an unstressed control. Samples of blood and muscle stress related parameters were sampled after slaughter and the fish were chilled and sent to for filleting and packing. Subsequently, samples were sent for quality analysis, sensory analysis and the consumer studies.