

Title: Development and assessment of optimized land-based tank farming of Atlantic Halibut in Canada

Summary:

In a land-based, halibut grow-out facility, energy and feed costs are major components of the total cost of production. Both can be lowered if growth rate is optimized. Optimized growth rates occur when available feed is utilized efficiently by all individuals in the population. When there is wide variation for size among the fish within in a tank, feeding hierarchies develop rapidly. Larger, dominant fish eat first and will consume the bulk of the feed. Smaller, subordinate fish must wait until the larger fish are sated before they even get a chance to feed. Many don't get enough feed. The bigger fish grow at a faster rate than the smaller fish and variation increases.

Previously, grading for size at CanAqua Seafoods Ltd. was done manually. The process was subjective, relatively slow and involved more than desirable handling of the fish, resulting in stress levels that were unacceptably high. This study introduced a mechanical grading system for halibut to an existing halibut rearing facility in order to improve grading efficiency and ultimately improve fish performance.

Grading had the clear and desired effect of reducing size variation. Reduced variation increased feeding in all fish by achieving the optimum feed ratios. Soon after the fish were graded, growth rates seemed to increase with steady improvement through the winter months. There was a real reduction in time and effort required to grade the halibut when compared to the earlier manual grade techniques which likely would not even have been feasible at this stage of production. This practice has lead to production efficiencies and improved growth in Atlantic halibut - an emerging species for aquaculture.

Project Lead: CanAqua Seafoods Ltd.

Total Project Cost: \$1,615,141

DFO-AIMAP Contribution: \$300,000

Other Financial Support:

- Proponent: Canaqua Seafoods Ltd.
- Scotian Halibut Limited <http://www.halibut.ns.ca/>

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