



Award Details

Suitability of enhanced aquaculture feeds for commercial production of green sea urchin roe in a low-flow environment

Research Details

Competition Year:	2018	Fiscal Year:	2018-2019
Project Lead Name:	Gagnon, Patrick	Institution:	Memorial University of Newfoundland
Department:	Ocean Sciences	Province:	Newfoundland and Labrador
Award Amount:	12,500	Installment:	1 - 1
Program:	Engage Plus Grants Program	Selection Committee:	Atlantic Internal Decision Committee
Research Subject:	Animal nutrition and husbandry	Area of Application:	Aquaculture
Co-Researchers:	No Co-Researcher	Partners:	Pêcheries Shipek

Award Summary

Pêcheries Shipek S.E.C. (PSSEC), a leader in commercial harvesting of key marine fish and shellfish species in the northern Gulf of St. Lawrence (NGSL), recently completed collaborative research with Memorial University of Newfoundland examining the suitability of a high-flow-through raceway containment system for quick production of high volumes of green sea urchin roe. Results showed that the combined use of this system and an advanced aquaculture feed can clearly achieve this goal. However, roe taste, and to a lesser extent color, both varied with the consequence that a proportion of the roe produced was below standards for distribution on international markets. The next logical step for PSSEC, therefore, is to test the suitability of enhanced versions of the feed developed in the past few months. Because PSSEC also seeks to optimize its existing and forthcoming facilities, it needs to test the feeds in other types of containment systems. The proposed follow-up research will test the performance of three enhanced versions of the feed in a low-flow-through containment system to help optimize the formulation of the feed, while minimizing the amount of water needed to maintain proper environmental conditions for the urchins. We will carry out a feeding experiment in conical tanks with pre-spawned urchins collected from the wild and exposed to the same optimal water temperature identified in the previous research. Urchins will be fed with either of the three enhanced feeds. Urchins' physical state and survival, as well as the amount of feed consumed, will be monitored weekly throughout. Roe yield and quality will be assessed at the end of the experiment by a taste panel and with analysis of key biochemical compounds affecting roe taste and color. Information gathered from this growing university-industry collaboration will be used by PSSEC to examine the possibility of diversifying the range of species it provides to fishmongers, while exporting a part of its own production directly to regional and international urchin roe markets.