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PLEUROGENE - Flatfish genomics: enhancing commercial culture of Atlantic halibut and Senegal sole

Status	Past
Competition	Genoma España/Genome Canada
Sector	Fisheries
Genome Centre	Genome Atlantic
Project Leaders	Susan Douglas & Michael Reith (Canada) and Joan Cerda Lague (Spain)

Project Description

Senegal sole (*Solea senegalensis*) and Atlantic halibut (*Hippoglossus hippoglossus*) are two flatfish yielding high value market products with the potential for production in aquaculture. Currently, the culture of Senegal sole in Spain and other European countries is seriously impaired primarily because of difficulties in controlling reproduction in captivity and suboptimal larval nutrition.

Atlantic halibut aquaculture is somewhat more advanced, with commercial aquaculture production occurring in Norway, Iceland, Scotland and Canada, but there are still improvements to make, particularly with regard to judging when to spawn females, selecting genetically superior broodstock and enhancing disease resistance.

Large-scale genomics and proteomics approaches will be applied in this research project to thoroughly characterize these biological processes that will translate into knowledge to be employed to overcome the production obstacles and create (for Senegal sole) or expand (for Atlantic halibut) solid aquaculture industries. Because both species are flatfish, they are evolutionary cousins and thus DNA and protein sequences are likely to be similar between them. In addition, genetic linkage maps of Atlantic halibut and Senegal sole will be generated for use in the selection of improved broodstock using molecular markers.

The data generated after all these approaches will be compiled into a comprehensive bioinformatic platform, focused on the areas outlined above so as to maximize the impact of these studies on aquaculture production.

Other principal investigators include scientific research groups from Fisheries and Oceans Canada's St. Andrews Biological Station in New Brunswick, Scotian Halibut Ltd. in Nova Scotia, Oryzon Genomics of Barcelona, Consejería de Agricultura y Pesca de Andalucía, Universidad de Granada, Consejo Superior de Investigaciones Científicas, Universidad de Córdoba, and Universidad de Barcelona.

A SUMMARY OF THE OUTCOMES FROM THIS COMPLETED PROJECT IS CURRENTLY BEING CONSTRUCTED. PLEASE CHECK THIS SITE AGAIN FOR AN UPDATE ON PROJECT RESULTS.