

SAFE FISH DISH

Improve microbial quality and safety of fish

GENERAL OBJECTIVE

Improve the microbial and sensory quality and safety of fish from harvest to consumer. This will successfully be achieved through a holistic approach involving optimal handling, processing, storage and distribution methods.

DESCRIPTION

A 3-years project coordinated by Dr Françoise Leroi (Ifremer, France) with ten partners from 3 countries (France, Iceland and Norway).

Norway and Iceland are among the world's leading seafood nations and this has been achieved by increased value adding and knowledge-based management of resources. France is an important producer but also the major European fish importing country.

The main challenge remains though in successfully maintaining freshness, quality and value as well as safety of seafood through handling, processing and distribution.

Seafood deterioration is mostly governed by microbial and biochemical activities which are influenced by temperature and storage conditions. The main cause of bacterial contamination of fish processing line is due to rapid bacterial proliferation on the skin during early storage which spreads during filleting and by post-contamination during processing. **Reducing the microbiota before process and preventing its development during storage will extend shelf life.**

The project will focus on **wild cod, farming salmon and lightly preserved salmon (cold salmon or marinated salmon)**:

- **Novel handling techniques and combination of innovative preservation technologies** involving biopreservatives (protective cultures and chitosan), superchilling and modified atmosphere will be evaluated.
- **Treatment well ahead of the food chain** (on the skin upon harvest and on flesh just after filleting) may maximize its efficiency and will be explored.
- **Combination of these preservation techniques** is innovative and needs to be tested.
- **Bacterial ecosystem and their metabolism profile** will be explored via modern tools such as new generation sequencing (NGS) and various chromatographic methods.

PARTNERS

Academics

 IFREMER (Institut Français pour la recherche et l'exploitation de la mer) Laboratory EM'B NANTES, FRANCE Microbial Ecosystems and Marine Molecules for Biotechnology	 NOFIMA TROMSØ, NORWAY The Norwegian Institute of Food, Fisheries and Aquaculture Research	 MATIS REYKJAVÍK, ICELAND Food safety, Environment and Genetics Microbiology research group	 NTNU (The Norwegian University of Science and Technology) TRONDHEIM, NORWAY Norway's primary centre for technological research and education with a firm foundation in natural sciences	 Oniris Nantes-Atlantic National College of Veterinary Medicine, Food Science and Engineering	 INRA SCIENCE & IMPACT
				 ONIRIS NANTES, FRANCE Atlantic National College of Veterinary Medicine Food Science and Engineering – UMR1014 Secalim INRA-Oniris	

Industrials

 PRIMEX SIGLUFJORDUR, ICELAND Natural Fibers from the Pristine Icelandic Water	 FJARDALAX REYKJAVÍK, ICELAND Farmer of naturally raised Atlantic salmon	 plate-forme d'innovation NOUVELLES VAGUES BOULOGNE-SUR-MER, FRANCE Innovative technological and analytical platform dedicated to aquatic products	 SAMHERJI ICE FRESH SEAFOOD
			 SAMHERJI AKUREYRI, ICELAND Seafood compagny

Confederation of industries

 CITPPM CONFÉDÉRATION DES INDUSTRIES DE TRAITEMENT DES PRODUITS DES PÊCHES MARITIMES ET DE L'AQUACULTURE
CITPPM PARIS, FRANCE The french confederation of processing industries of fishing and aquaculture production