

SAFE FISH DISH



Improve microbial quality and safety of fish

GENERAL OBJECTIVE

As the world attempts to grapple with decreasing fish stocks, there is a growing focus on how to improve current management of the fish caught to reduce waste. The three-year research project SAFEFISHDISH is addressing this by looking at the opportunities to improve microbial quality and safety of fish, from harvest to consumer.

DESCRIPTION

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

Seafood deterioration is mostly governed by microbial and biochemical activities which are influenced by temperature and storage conditions. **Reducing the microbiota before process and preventing its development during storage will extend shelf life.**

Different advanced technologies are combined to improve the quality and safety through a holistic approach. The technologies include handling techniques, biopreservation (protective cultures) and chitosan coating for skin and flesh treatment, superchilling, modified atmosphere packaging as well as combining the preservation techniques (so called the hurdle technology) to test how they perform together.

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

DISSEMINATION

- Website : www.safefishdish.fr
- One peer-reviewed scientific publication in : *Frontiers in Marine Science*, 2016, Vol 3, 1-13
- One promotional poster in an international meeting
- Three oral presentations in international conferences
- Three information days for industry.

ACCOMPLISHMENT

A **chitosan solution** that prevents the development of undesirable spoiling bacteria in fish was selected and successfully tested in cod and salmon. **Four protective bacteria** were selected regarding their wide anti-microbial spectrum, capability to resist to chitosan and superchilling and safety and sensory acceptability aspects. They are currently tested in cold-smoked salmon and Gravlox. A great effort was made on **optimisation and harmonisation of advances analytical methods** such as New Generation Sequencing, quantitative PCR and HS-SPME/GC-MS method (Headspace–Solid Phase Microextraction –Gas Chromatography –Mass Spectrometry).

EXPECTED IMPACT AND PERSPECTIVE

SAFEFISHDISH will deliver important changes that are needed for fish transportation to foreign markets, including reduced costs, cold chain stability, improvements in environmentally friendly packaging and more efficient shipping, ultimately delivering safer and more sustainable fish to the consumer. It will support the installation of new equipment, such as superchillers, on fishing vessels and new processes such as ways to rinse fish on board with chitosan solution and add bioprotective bacteria.

PARTNERS

Academics



Industrials



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