

900985 «Development and implementation of technical criteria for the differentiation of light salted vs. fully salted/desalted cod products. How to disseminate appropriate information and avoid misleading consumers.»

Start: 1.3.2014

Slutt: 31.10.2015

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Tilsagn FHF: 1 771 000 kr

Total: 1 771 000 kr

Ansvarlig FoU-institusjon: ANFACO-CECOPESCA

Utførende prosjektleder: Rodrigo González

Resultatmål:

The main objectives of the project were to study the differences in light salted and desalted cod products in order to develop valid analytical methodologies for discrimination which could be applied in official control. Dissemination strategies towards the sensitization of the Authorities, and the development of specific technical regulation for the categorization of cod products in trade is also part of the project objectives.

- Delmål 1: To determine and document structural, compositional and sensorial differences between light salted and fully-cured /desalted cod.
- Delmål 2: Develop valid methodologies and protocols for the discrimination of light salted cod products from desalted products which could be readily applied by official and standard control laboratories worldwide.
- Delmål 3: Prospect for other novel advanced technologies because of its potential to develop cheap, specific, fast and simple methodologies for this purpose.
- Delmål 4: To raise awareness by the competent authorities/consumers for the settlement of a differentiated commercial status for both products.

Nyttverdi:

- Increased knowledge of the nature of these cod products and consumer capacity for their discrimination. Disseminate scientific results as the basis to sustain legal modifications.
- Provide validated analytical tools for a fast incorporation by control laboratories worldwide.
- Open and maximize discussion with Authorities about the appropriateness of establishing technical criteria for the differentiation of cod products presently available at market. Evaluation of different criteria concerning the denomination of cod products and industrial processes applied, and their legal implications in trade.

Oppnåede resultater og anbefalinger:

- Analysis determined that there are several compositional aspects that enable the differentiation of light salted and desalted products.
- Sensory analysis determined that light salted and desalted cod products can be discriminated by a trained panel but not by a consumer panel unless cooked. Information shall be given to consumer at the moment of purchase for a conscious choice.
- Microbiological methods and molecular fingerprinting did not allow to the moment to discriminate target products.
- Verification of the discrimination potential of other novel advanced technologies (hyperspectral imaging and machine vision) for the future development of specific instrumental.
- Other methodologies either did not enable full discrimination, were affected by product changes during shelf-life, or were not within the objectives of the project (fast, simple, easy to disseminate, etc...).
- Published Standard Operating Protocols validated and ready to be incorporated by control laboratories. These methodologies are based in standard instrumental available at laboratories:
 - Analysis of trimethylamine + trimethylamine oxide through UV-VIS spectroscopy.
 - Analysis of creatine using HPLC and UV-VIS detection.
 - Discrimination of cod samples (*G.morhua*) using FTIR based models.

- Scientific and legal substantiation of the need for a homogenized international market environment concerning cod products. Technical documents and proposals are available for this purpose.
- Verification of the need of a dissemination strategy towards the standard cod product consumer for an appropriate valorization of the nature and quality aspects of cod products.

Formidling og leveranser:

- Leveranser:
 1. Report of the analytical results and sensory tests performed in light salted and desalted products including real market products and produced in pilot plant trials. (Delivery 2.1).
 2. Report of the capacity of different techniques to effectively discriminate light salted and desalted cod products (Delivery 2.2 and D.2.3).
 3. Standard Operating Protocols (SOP) at the disposal of Control Laboratories (Delivery 3.2) and their associated validation report (Delivery 3.1).
 4. Document to be used for the dissemination plan to the Authorities: "Technical paper for the appropriate labelling of cod products not submitted to thermal preservation".
 5. Contact to Authorities through the participation in Industry-Administration committees and sectorial boards.
- En annen formidling:
 - Karsten Heia (NOFIMA): Oral presentation at the Faggruppe konvensjonell meeting (Tromsø, 12th February, 2015).
 - Karsten Heia (NOFIMA): Oral presentation at the TAFT (WEFTA) Conference in Nantes 12-13th October, 2015.
 - Rodrigo González (ANFACO-CECOPECA): Oral presentation at the FHF Seminar for hvitfisk industrien (Tromsø 22nd October, 2015).
 - Carlos Ruiz (ANFABASA-ANFACO-CECOPECA): Oral presentation at the event "*Claves para incentivar el consumo de pescado*" (Madrid, 16th September 2015).
 - Contact to Spanish National Laboratories for the Official Control of Food Products for the collaboration in the developed methods intervalidation. (September, 2015)
 - Rodrigo González / C. Ruiz (ANFACO-CECOPECA/ANFABASA): Work meeting at the Spanish Ministry for the appropriate trade classification and labelling of cod products in Spain (MAGRAMA-AECOSAN, Madrid 13th October, 2015).
 - Meeting with the Portuguese Association of Salted Cod producers (AIB) (Conxemar, 6th October, 2015)
 - Meeting with the Norwegian Seafood Council delegates from Spain and Portugal (Tromsø, 21st October, 2015).
 - Series of articles at the Spanish industrial publication "Industria Conservera" and other similar sectorial publications in Spain.

Eventuelt:

Meeting with the Authorities resulted in the development of method intervalidation trials with official laboratories in Spain and other potential partner laboratories. It has been agreement on the necessity of the development of a technical quality regulation regarding cod products in Spain. The Spanish Ministry of Agriculture and Fisheries accepted the responsibility of leading this task.