Surimi Quality Improvements

The Fisheries Diversification Program (FDP) provided assistance in 2000 to Atlantic Shellfish Inc. of Clarenville to examine and improve its imitation crab meat formula.

Background

Atlantic Shellfish Inc. has been a pioneer in developing surimi, an imitation crabmeat, since the early 1980s.

Surimi is a seafood where washed or cleaned groundfish is minced and cooked with special recipes in order to make a product which imitates the taste and texture of various shellfish, especially crab. This is a value-added product which turns a lower valued species and by-products into a higher valued product for use in restaurants and retail markets.

Atlantic Shellfish Inc., for several years, had focused on moderate changes to its texture and shellfish flavour profiles to the point where they felt they had exhausted their internal expertise.

With the investment the company had already made in marketing and sampling its product throughout North America, they concluded their success was limited to its current market unless their product changed.

Furthermore, Atlantic Shellfish recognized product quality enhancement usually means sales will improve and, naturally, if sales improve, its Clarenville plant will have greater long-term stability. However, the surimi (or imitation crab) market is described by Atlantic Shellfish as being very competitive.

Imitation crab products are produced mainly in the North Western United States, Korea, China and other locations in Asia, so the marketplace competition is global in nature.

The technology and ingredients being used in formula optimization are always under development by food industry giants, while geography and the lack of resident expertise significantly slows the transfer of new technology...
and new techniques to the company concerned, Atlantic Shellfish Inc.

Methodology
Atlantic Shellfish’s goals were to contract some of the finest technical expertise available and complete a full review of their primary and secondary processing operations.

This was accomplished when the company turned to Oregon State University, a leader in research and development in surimi and artificial shellfish products in North America. Technical support was provided from this university to Atlantic Shellfish Incorporated.

Results
At the end of this project Atlantic Shellfish officials reported that they met or surpassed their objectives.

The project results included:

- Improving texture and making a firmer product which included identifying appropriate starches, modifying agents and gel enhancers
- Improving flavour by identifying new alternative flavours or adding natural crab meat
- Improving color additives used by the industry today for both the white and red-orange color used with imitation crab
- Improving moisture and water retention in the product, especially to reduce drip loss upon thawing
- Addressing shelf life concerns
- Completing full recipe and process reviews with suggestions on how to optimize the finished product

Best of all, with improvements in the product, the company is seeing increased interest in its imitation crab both domestically and internationally.

A visit to one potential new customer in Denmark as part of the FDP project resulted in an order which meant an additional 20 weeks of operation in its surimi food processing operation, employing up to 40 people over 11 months.

Conclusion
Atlantic Shellfish reports that it anticipates increased sales because of this quality enhancement.

This growth will permit the company to expand its imitation crab processing operation at Clarenville, thereby increasing job stability for their workforce.

Department of Fisheries and Aquaculture
Government of Newfoundland and Labrador
P.O. Box 8700, St. John's, NL, A1B 4J6
Call: 709 729-3732 / Fax: 709 729-6082
Web: http://www.gov.nf.ca/fishaq/FDP
(Or a DFA Regional Office near you)

The $10 million Fisheries Diversification Program is part of the $81.5 million Canada-Newfoundland Agreement Respecting the Economic Development Component of the Canadian Fisheries Adjustment and Restructuring Initiative.