

# 1 Introduction

The Japanese market represents a lucrative and expanding opportunity for the Canadian fishing industry. Trade links have long been established based on traditional fish species. In recent years new fish products have been identified allowing the Canadian industry to expand exports to Japan. The Atlantic Canadian herring roe fishery represents a relatively new export opportunity.

Herring roe or "kazunoko" is a traditional food of the Japanese, consumed predominantly during the festive New Year's season. The Japanese consumer purchases kazunoko in two forms: as a salted product (shio kazunoko) and as a newer ready-to-eat seasoned roe product (ajitsuke kazunoko). British Columbia herring roe is utilized as shio kazunoko and its high price limits consumption to the festive New Year's season. The latter is eaten on a regular basis as an accompaniment dish (sozai). The price is more affordable and larger quantities are consumed. It is this kazunoko product that was developed in recent years to utilize the abundant Atlantic Canadian herring roe resource and that has the greatest market potential.

To meet consumer demand the Japanese have turned to various world suppliers of herring roe. The product quality from different parts of the world varies tremendously due to processing, handling techniques utilized and the roe's inherent qualities.

Understanding and observing the quality standards of the Japanese industry are essential to enhancing Atlantic Canada's position as a major exporter of herring roe to Japan in the years to come.

## 2 Objectives

The broad objective of this study is to upgrade Atlantic Canadian roe handling and processing methods to meet the quality standards required by Japanese industry. Specifically, this objective can be achieved by carrying out the following activities:

- Review aspects of current practices including on-board and in-plant handling, processing methods, grading practices and compare with Pacific coast practices.
- Investigate the effects of various handling and preservation techniques on quality and recommend "best practice" methods.

- Incorporate the requirements of Japanese processors and trading companies into recommended minimal grading quality standards. These standards can then be used as a basis for subsequent development of industry grading specifications.
- Assess existing and potential interest by Japanese trading and processing companies in a semi-processed Atlantic Canadian herring roe product, and the specific processing requirements for this product.
- Communicate the results of the current study to industry in Atlantic Canada through this report's distribution and through a series of seminars and workshops to industry associations. This aspect of the study will be undertaken in association with the Fisheries Council of Canada.

## 3 Background Information

### Comparison of Canadian East Coast and West Coast Industry

British Columbia has been the major supplier of herring roe to the Japanese market since 1970. Pacific roe is used almost exclusively in the traditional (and expensive) salted kazunoko, and thus returns a high price to Canadian processors.

Herring roe from British Columbia is extracted from whole fish, which have been frozen then thawed. The extracted roe is washed in a series of brine concentrations, then cured in 100 per cent brine. This process firms the roe, providing it with the "crunchy" texture the Japanese consumer desires.

Atlantic Canadian roe has also been sold to the Japanese since the early 1970s, initially in very small amounts. However, it was not until 1982 that Hokkaido processors identified a product in which the abundant supply of Atlantic herring roe could be utilized fully. This development led to an increase in the demand for Atlantic herring to satisfy production requirements for this seasoned roe, or ajitsuke kazunoko.

The Atlantic Canadian industry involves little in-plant processing in the traditional sense. Rather, roe is extracted from fresh herring, packed in polyethylene-lined 9 kg (20 lb) boxes which are plate frozen and shipped to Japan. Japanese "processors" then thaw the raw product, which they utilize in their secondary manufacturing processes.