Introduction

The objective of this project was to produce a quantity of jellyfish product, in order to provide an understanding of the production processes and costs involved in producing jellyfish, as well as to provide product for market evaluation.

Background

In many Asian countries, processed or dried jellyfish is highly regarded as a food item because of its’ nutritional and medicinal value. Consumer demand for this product has been traditionally met by production from Thailand, China and Malaysia. There are several species of jellyfish processed in these countries, mainly warm water species. Jellyfish are mainly eaten as a snack food but are also incorporated into entree items or side dishes.

Jellyfish are very abundant in the provinces inshore waters from late August until the middle of September. There are predominantly two species which frequent our waters: the moon jellyfish (common name) and the lions mane jellyfish (common name). This project focused on processing the more common ‘moon’ jellyfish.

Early in 2002, the Department of Fisheries and Aquaculture approached the Center for Aquaculture and Seafood Development (C-ASD) for assistance in determining the viability of a fishery for jellyfish, and an evaluation of the market potential in Asia.

Methodology

In carrying out this project, the initial work involved conducting a literature review of research involving jellyfish processing. The literature review studied documents relating to the species, process and marketing of...
dried and salted jellyfish. The information gathered in the literature aided in developing the processing procedures and final product forms.

Once the procedures were drafted, jellyfish was harvested and shipped to the Marine Institute for processing. Upon receipt of the product, it was inspected for size and quality. This information was conveyed to the Fisheries Development Officer and changes to the handling onboard the vessel would be made as required. Only small quantities of jellyfish were delivered to the Marine Institute (400-600 lbs/lot), to allow refinement of procedures and collection of processing data.

Results

Over a two month period, approximately 1000 lbs of jellyfish was delivered to the Marine Institute for processing. The main species landed was the moon jellyfish. A small quantity of lions mane jellyfish was landed, however, this species is very delicate and was unable to be processed successfully.

Proper handling and care of the product is critical. Jellyfish are susceptible to spoilage once landed. Onboard handling procedures required the product to be immediately placed in sea water slush containing 1% alum. Crowding product into containers caused spoilage and damage to the product. Spoilage is manifested as color change in the umbrella portion of the jellyfish.

Once the product was delivered to the processing facility, it was critical to keep the product chilled throughout the process. The processing procedure required removal of the tentacles and gut material. The product was then washed in a brine solution (3%) to remove all remaining debris.

The salting procedure for the jellyfish is similar to that of preparing saltfish, with the exception that it is cured over 5 stages. The umbrella was placed in a container, fishery salt and alum mixture was distributed over the product. This was done for each layer to a maximum height of 30 cm. The detailed procedure is outlined in the report.

Conclusions

The abundance of jelly fish in Newfoundland waters makes it a potential resource for an inshore fishery. Based upon the work conducted to date, the product landed yielded a very small percentage that met the minimum market requirements, of 30 cm diameter. The smaller product also resulted in increased handling during processing. Thus, with only a 4-6% yield, the final cost of the finished product will make it difficult to process on a viable basis, recognizing that much more research needs to be done on market applications and more efficient processing techniques.

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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.