

FISHERIES DIVERSIFICATION PROGRAM

Productivity and Product Enhancement

Project Summary: FDP 63, 76 & 330

2002

Shrimp Quality Initiatives

Pandalus borealis

Producing top-quality shrimp is a common goal for all in the shrimp industry. Shrimp harvesters, handlers, processors, truckers and sellers all know that there is a direct relationship between quality and value, as with any seafood product. Improving shrimp quality was also the goal of three Fisheries Diversification Program (FDP) projects. They involved one-day "Shrimp Quality Improvement" workshops in 2001 and 2002, as well as the production of a "NORTHERN SHRIMP Quality Handling Practices" video. The video was used at the end of the one-day seminars as a summary of the issues discussed in the workshop.

Background

The shrimp industry is relatively new to the Province but it is already very important to the local economy. In 2001, 70,700 tonnes of shrimp was landed, valued at \$144 million. More than 1,000 people benefited directly from shrimp harvesting and processing.

In 1999, almost 3.5% of all the shrimp landed locally were rejected. The main reasons for rejection were undersized, broken, spoiled or tainted shrimp. Non-Northern shrimp species, and any catch containing foreign materials, were also rejected at the grading stage.



Top quality, cold water shrimp.

One-day, quality improvement workshops on crab started in 1998/99. A similar proposal for shrimp the following year found support among key participants. The proposal from the Fisheries Association of Newfoundland and Labrador (FANL) and the Fish, Food and Allied Workers Union (FFAW) was supported by the Department of Fisheries and Aquaculture (DFA), the Atlantic Canada Opportunities Agency and the Department of Fisheries and Oceans, through the FDP. The Marine Institute of Memorial University and a seafood grading company, TAVEL Ltd., were contracted to teach the program.

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The workshops brought together all players in the industry seeking better co-operation, increased quality, improved products and greater returns.

There were sessions held at 12 locations throughout Newfoundland and Labrador. The largest single group, 129 people, attended in Valleyfield. It is estimated about 10 % of those employed in the shrimp industry attended the one-day quality improvement workshop, with an average of 46 people per session.

Shrimp Workshops

As a principle, groups and individuals involved in these projects agreed that they are all partners in the effort to produce the best quality shrimp in and for the world.

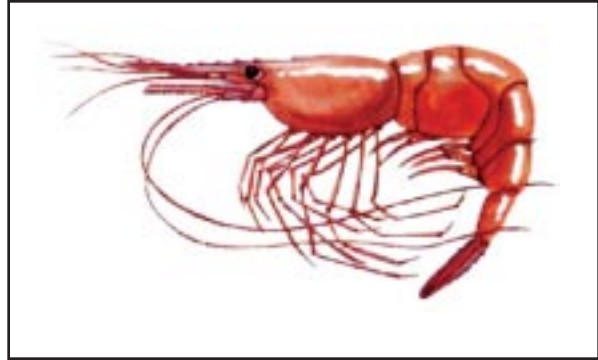
Each workshop had these core elements:

- Shrimp biology and basic harvesting methods;
- Information on the grading system;
- Methods to improve the overall quality of landed shrimp;
- Onboard shrimp handling and storage practices;
- Plant handling practices; and
- Questions and answers on producing quality shrimp.

The one-day workshops began with TAVEL Ltd. representatives providing an overview of the industry, including data on the global shrimp supply, the history of local prices, and commentary on issues like the 20 % tariff on local shrimp destined for the European marketplace.

Marine Institute officials then presented information on shrimp biology, including world-wide distribution. Its complete life cycle in Newfoundland and Labrador was studied.

Grading standards and procedures were reviewed, including dockside problems, sizing issues, the amount of ice needed, and the



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overall grading standards, as negotiated between FANL and the FFAW. It was pointed out that grading problems are often related to size. Shrimp weighing two grams or less are rejected.

A color chart for shrimp was shown, revealing that a rejected shrimp has a black head and is yellow with a green glossy color, while a high-quality shrimp has a deep red to a strong pink color with well-defined stripe markings.

Marine Institute officials then spoke about the maintaining of quality onboard a vessel. TAVEL Ltd. employees followed with a review of dockside and transportation quality issues and DFA officials provided an overview of industry regulations.

The day concluded with the showing of a video illustrating some of the points raised in the workshop.

People learned that all surfaces that the shrimp come in contact with, especially the stowage containers, boat hold, culling tables and deck, must be sanitized with a Canadian Food Inspection Agency approved disinfectant after every voyage. Then the surfaces must be scrubbed to remove any solids and rinsed with clean water before starting another trip.

The video also says that crews at sea can ensure quality with two simple actions: maintain a proper temperature, and reduce breakage and crushing.



Quality Control.

Bacterial problems usually are related to improper temperatures, while enzyme spoilage and staining can be controlled by eliminating crushing.

The video also discusses how much ice might be needed and how it is best used.

Near the end of the video, shrimp harvester, Glen Winslow sums up the video's message: "You've got to put quality first."

Shrimp Quality Issues

The workshop and companion video shows that processors, truckers and others onshore cannot improve the quality of shrimp. At best, they can only maintain it.

The workshop and video also suggest the following guidelines:

- Reduce the time for each tow;
- Reduce the distance of the drop from the trawl to the deck or hopper;
- Avoid walking on the catch;
- Use staging or pen boards to reduce or eliminate any downward pressure on the catch;
- Keep all tows separate and each day's catch should be easy to identify;
- Wash down every working surface between each tow;
- Wash the shrimp prior to stowage to remove bacteria and digestive enzymes;
- Check to make sure the maximum weight per bag is about 25 pounds;
- More handling means more damage, so do not throw or drop the catch at anytime; and
- Ice and shelter for the catch must be available at all times.

Conclusions

The workshop evaluation questionnaire, completed by participants, rated the seminars very highly. Based on the questionnaire forms returned, the most common comment was a quality workshop should be mandatory as a condition of every license.

The final reports for these projects recommended the following:

- Community-based delivery of these workshops should be continued and expanded to other locations;
- Develop and deliver processing work shops specifically for plant personnel in the shrimp industry;
- Information gaps exist regarding the handling of shellfish and research to fill these gaps should be given serious consideration;
- FANL and FFAW should approach the Professional Fish Harvesters Certification Board and the

Department of Fisheries and Oceans to determine the feasibility of making quality work shops mandatory for fish harvesters and handlers;

- The course book should be a higher quality;
- The industry management plan and conditions of license might be included in the workshop participant's package; and
- Workshops should be given earlier in the winter.

Copies of the video used for these workshops, titled "NORTHERN SHRIMP, Quality Handling Practices," are available through your nearest Department of Fisheries and Aquaculture Regional Office.



Proper icing ensures high quality.

**Department of Fisheries and Aquaculture
Government of Newfoundland and Labrador**

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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.