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Jeanie Henry

House Special Committee on Fisheries, 4/16/85, 8:30am

Surimi

Looking Good in Kodiak

by Chris Blackburn

Less than a month after its surimi line went into full production, Alaska Pacific Seafoods in Kodiak had surpassed Japanese shore grade quality surimi and was very close to making the top quality S.A. or at sea surimi.

"We have made S.A. grade by every criteria except color," said APS plant manager John Sevier. APS' surimi was coming out just slightly darker than the pure white of top grade surimi.

"I think we'll be able to match S.A. grade color by adding another wash," said Chris Riley, Alaska Fisheries Development Foundation project manager for the surimi project. APS is producing surimi under a development foundation grant.

The fish paste which is used as a base for many products, including formulated shrimp, crab and scallops, is graded on five criteria—color (the whiter the better), elasticity, foldability, water content and the number of defects (scale pieces, etc., in the final product).

During the first week of February APS was turning about 35,000 pounds of pollock per eight hour shift into surimi and expected to increase production to 50,000 pounds per shift.

"If we hit 100,000 pounds in two eight hour shifts, we'll be able to turn the boats around fast," said Sevier. Two vessels, the *Defiant* and *Northern Challenger*, were delivering pollock to APS.

The fish are pumped out of the boats' fish holds, through a wash and into the plant. Baader's new 182 fillet machine, which produces 120 fillets a minute, heads, guts and fillets the fish. The fillets go over a skinner and Baader 695 deboner, then to the ratio tank where the pH of the wash water is adjusted.

After the minced flesh is washed of water soluble proteins, the meat is pressed out through a fine screen in the refiner, mixed with stabilizers and formed into blocks for freezing.

"The Baader 182 is really an essential part of this operation. It reduced the defect rate below that necessary for S.A. grade," commented Riley.

"We're doing it," said floor manager Louie Reyes.

"It's a good experience, a very good experience," said Sevier. At the APS dock both tanner crab and pollock were being unloaded simultaneously.

"It's like the old days when we did shrimp and crab at the same time," Sevier said.

In the APS lab, Landon Asakawa runs tests on each batch of surimi.

"We'll be sending out a form with each batch designating its specifications," Riley said.

For top quality surimi, APS receives a bonus from the development foundation as well as the base payment for production.

With the line in full production, the development foundation is now looking for places to market surimi and hopes to break into the Japanese market as well as sell on the U.S. market.

Full scale production will also produce data on recovery rates and profitability as well as give food equipment manufacturers a chance to experiment with better ways of producing surimi.

At the end of January the development foundation project had reached its first goal—the continuous production of a high grade surimi in a shorebased plant. □

CENTER DESCRIPTION

The University of Alaska established the Fishery Industrial Technology Center (FITC) in 1981, to increase the Alaskan fishing industry's international competitiveness through technology and training.

The FITC's mission is to create employment opportunities for Alaskans in the expanding fishing industry through training and supporting research. Training Alaska's seafood workers to use the best in new technologies will allow better, more efficient use of the fisheries resources. Research and development projects will target on increasing the industry's efficiency and effectiveness.

The center's four components are: harvesting technology, processing technology, training division, and the support division. Located on Kodiak's Near Island, the center will eventually include five buildings, about 40,000 square feet in all. Analytical laboratories, pilot plants, test kitchens, a flume tank, offices, classrooms and transient housing will be part of the completed facility.

Ninety full-time professionals and support persons will make up the full staff, devoting most of their time to problems associated with the business side of the industry. Specialists will focus on four major technical problems in the immediate future:

1. Developing marketable new or improved seafood products.
2. Devising strategies to improve yield, value, and stability of Alaska's seafood products.
3. Developing scientific ways to extend seafood shelf-life, consumer appeal, and quality.
4. Providing guidance to improve secondary on-shore processing.



PROGRAM

FITC activities are divided into four areas:

HARVESTING TECHNOLOGY

This division concentrates on improving the Alaskan fleet's performance. Staff members include gear, fishing systems and fishing ground specialists, available to assist with all fisheries.

SEAFOOD PROCESSING TECHNOLOGY

This division applies scientific and engineering principles to manufacturing fish-based food products. Product development and improvement will be the domain of this group.

TRAINING

This division makes the center's expertise and knowledge available to the fishing industry. Training is offered as college credit courses, workshops, or short courses.

SUPPORT

This division administers the center and maintains the specialized computer network, technical library, publications and operation of the flume tank, research vessel, and mobile training unit.

CURRENT ACTIVITIES

The training division conducts approximately 40 workshops per year throughout the fishing communities of Alaska. In 1984, the center sponsored a training trip to the British Seafood Industrial Authority (BSFIA) in Hull, England. Nine Alaskan fishermen used the BSFIA flume tank and fishing vessel simulators to test Alaskan trawls against those used by the British fleet. FITC hopes to have a similar training facility built by 1992 on Near Island.

The seafood processing division recently completed a study testing the effectiveness of ozone-treated wash water and ice on the keeping quality and stability of sockeye

salmon. The key to enhanced quality was to chill the fish as quickly as possible. If properly handled, the sockeye salmon could be held on ice for at least two weeks. Ozone treatment did not promote rancidity.

The staff is also investigating the post-mortem biochemical changes in Pacific salmon during partially frozen storage, and the performance of ice-seawater mixture as an alternate fish-chilling system. Research to determine the microbiological profiles of Alaskan seafood has just started. Microbial flora of the fish mirror that of the environment. Knowing them is the first step to controlling microbial spoilage and the associated public health hazard.

Phase 1



Seafood Technology Building		
General purpose classroom	1,500 SF	
Teaching/research laboratory	7,885 SF	
Offices/administrative area	1,777 SF	
Library	1,496 SF	
Other	640 SF	
	15,298 SF	\$7,500,000

Support		
Facilities equipment		
Road/parking		
Landscaping		
Utilities		
TOTAL		\$1,500,000
		\$9,000,000



Phase 2



Warehouse/Transient Housing		
Transient housing	12,000 SF	\$1,600,000
Warehousing	6,300 SF	\$1,000,000
	18,300 SF	

Support		
Dock and access road		
TOTAL		\$2,100,000
		\$4,700,000



Phase 3



Harvesting/Technology Building		
Multipurpose classrooms	2,500 SF	
Teaching/research laboratory	4,000 SF	
Office Space	3,000 SF	
Pilot Plant	4,800 SF	
	14,300 SF	\$12,900,000

Hydraulics Laboratory		
Flume tank	4,500 SF	
Classroom	400 SF	
Office/storage	500 SF	
	5,400 SF	\$ 8,000,000

TOTAL		\$20,900,000
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