



September 1950

PRESERVATION: Samples of preserved salmon eggs have been assayed at weekly intervals to determine the effect of the preservative on the riboflavin, niacin, biotin, and vitamin B₁₂ content. No significant changes have as yet occurred.

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FRESH FISH: Three additional species of Pacific rockfish were tested for palatability. These were S. saxicolus, S. paucispinis, and S. ruberimus. The first of these appears to have palatability comparable to the S. alutus. The last two are of somewhat inferior palatability and apparently are in the same category as S. diploproa.

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ANALYTICAL METHODS: The presence of hydrochloric acid, acetic acid, and formic acid in acetone used to extract oil from fish meal by refluxing was compared. Use of formic acid gave the most complete extraction of ether soluble material by this method.

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REFRIGERATION: Organoleptic tests were carried out on several of the Pacific rockfish species which had been in cold storage for one month. No adverse changes had occurred in any of the species after this short storage period.

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Pink salmon fillets were prepared for further freezing and storage studies.

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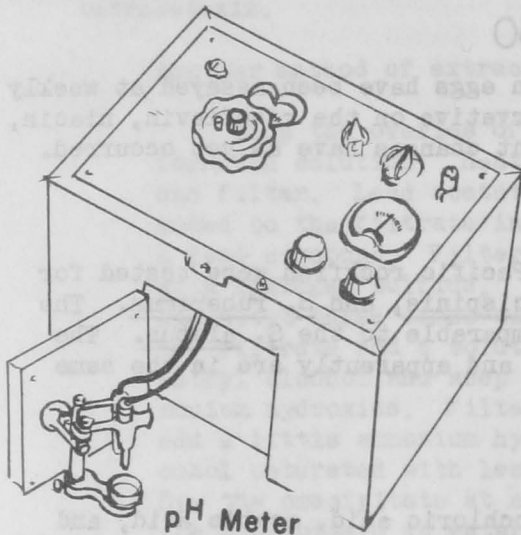
A series of red salmon (O. nerka) samples were frozen for further study of the effect of freezing and storage on the quality of the canned product. Two additional variables are being studied:

- (1) A comparison is being made of the effect of storing the glazed salmon in the round at -20° F. with that of salmon stored at 0° F. during a period of 24 weeks.
- (2) A comparison is being made of the effect of quick and slow freezing on the quality of the final canned product.

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Acceptable palatability scores are still being obtained for all lots of frozen oysters treated in various ways with ascorbic acid and glazes. The oysters have now been in 0° F. storage for five months. Though the scores are showing some variation between lots, as well as having varied from month to month during this period of storage, no particular trend has as yet become evident. Slight darkening of the oysters has occurred, but the color is no worse than that found in fresh oysters from certain areas.

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As an approach to the problem on studies of the toughening of blue crab meat, it was decided to investigate the effect of freezing on the pH and respiration of the meat. Samples of frozen blue crab meat were prepared by approximating as closely as possible the process used by certain commercial crab-meat packers. After one month of storage, there was no detectable change in the taste, color, odor, or tenderness of the frozen crab-meat samples, nor were there any significant changes in pH or respiration.

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Additional funds have been made available for carrying out research on freezing North Atlantic fish species at sea (freezing-fish-at-sea project). More detailed and comprehensive studies are to be initiated on the methods of freezing and storing whole fish at sea, and the effect on the fillets cut from these fish and refrozen (frozen whole fish will be defrosted ashore, filleted, and the fillets refrozen). Pilot-plant and commercial-scale operations are planned as soon as personnel are recruited and equipment is made available.

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SANITATION AND BACTERIOLOGY: Additional funds have been made available to the Atlantic States Marine Fisheries Commission for continued operation of the project to study the extent and effect of pollution on the marine fisheries of the Atlantic Coast. These studies are being carried out under the supervision of the Chief of the Service's Boston Fishery Technological Laboratory. The work for this fiscal year will consist of the completion of the exploratory studies in the Atlantic Coast States and the submission of the reports to health and fisheries authorities.

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LABORATORY NOTES: The construction of the second floor of the Ketchikan (Alaska) Fishery Products Laboratory has been completed. The additional facilities include a modern test kitchen, laboratories, photographic dark room and offices. An "open house" was held at the laboratory on September 21 to give the general public an opportunity to inspect the new facilities and to become better acquainted with the work of the laboratory. Operated jointly by the Fish and

Wildlife Service and the Fisheries Experimental Commission of Alaska, the basic aims of the laboratory are:

1. Improvement of existing fishery products and processes.
2. Development of new fishery products from existing fisheries.
3. Development of new and especially off-season fisheries.

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MAYAGUEZ FISHERY LABORATORY TRANSFERRED TO UNIVERSITY OF PUERTO RICO: The Service's Fishery Research Laboratory and facilities at Mayaguez, Puerto Rico, has been transferred for an indefinite period (on a loan basis) to the University of Puerto Rico in the same city. The University will use the laboratory for marine research in connection with University programs.

The funds of the Service's Branch of Commercial Fisheries have not been sufficient to make it possible to operate the laboratory on other than a very skeleton basis for some time. It is felt that the most benefit can be derived by loaning the laboratory and facilities to the University.



CANNED CRAB INDUSTRY OF JAPAN

Crab canning in Japan dates from 1880, when a sample of canned crab meat, produced in the Fisheries Laboratory at Nemuro, Hokkaido, was exhibited at the Second Industrial Exposition in Tokyo. The first crab cannery was established in 1884 in Fukui Prefecture. This event was followed by the opening of several other canneries in the immediate area, and the industry flourished briefly. However, the crab canned there, the zuwai-gani (Chionectes opilio), was of poor quality and was far inferior for canning to the taraba-gani (Paralithodes camtschatica) of the northern regions. With the establishment of canning factories in Hokkaido, Karafuto, and Kamchatka after the Russo-Japanese War, canning activities in the Fukui district ceased.

The Hokkaido industry was centered near the city of Otaru until 1891, but with the increasing demand for the superior taraba crab, canneries spread rapidly northward along the coast. Canned crab was exported to the United States for the first time in 1906. The annual pack in this area increased from 37,437 cases in 1916 to 172,885 cases in 1934. As early as 1922, fear of overproduction and evidence of depletion of the supply caused the Government to take restrictive measures which resulted in the amalgamation of all canneries under one controlling organization. The control of the industry changed hands several times until 1941, when the Government ordered all land-based crab and salmon canneries in the northern Pacific area placed under control of the Nichiro Fishing Company.

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