

TECHNOLOGICAL RESEARCH IN SERVICE LABORATORIES

JUNE 1946

College Park, Md.

Preparations are under way for the packing of a series of experimental, fish-base pet foods.

The staff organized and set up an educational exhibit in cooperation with the National Fisheries Institute at the American Home Economics Convention held in Cleveland on June 24-27.



An experimental shipment of blue pike fillets was sent by air from Wayne University in Detroit to this laboratory. The fillets had been previously inoculated with Clostridium botulinum, but the product was not toxic to guinea pigs on arrival.

Experiments were conducted on the use of various dips as a means of delaying spoilage of shucked oysters. Five out of 14 micro-organisms isolated from oysters were shown to produce substances antagonistic to fungi.

A satisfactory air sampler was designed to be used in testing the disinfecting efficiency of glycol sprays.



Boston, Mass.

Seven experimental sardine packs were prepared. Ice, in combination with brine, proved to be much superior to brine alone in holding fish prior to use.

The staff assisted the scallop fleet in obtaining cotton cloth for scallop bags. A shortage of these bags had threatened to tie up the vessels.



Ketchikan, Alaska

Recipes tested for the Alaska cookbook included dishes using abalone, oysters, king salmon, sablefish, rockfish, and halibut.

Because Alaska housewives have inquired about the use of kelp, samples of the following products were prepared: mint kelp jam, orange kelp marmalade, kelp

sweet pickles, pennock preserves, and sweet kelp preserves. After further tests, the recipes will be mimeographed for distribution.

Information on fish cookery and preservation was supplied to Mrs. Dale DeArmond of Station KTKN, Miss Imogene Ward of the University of Alaska, and Mr. George Logan of Waterfall, Alaska.

A modified method developed here for assaying riboflavin was tested on herring treated in various ways. Excellent checks were obtained and considerably less time and effort were used than with the older methods.

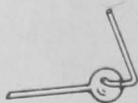
Statistical data were collected on the amount of trimmings that resulted from the operations of the Alaska salmon canneries from 1938 to 1944. These data will serve for planning byproduct recovery installations.

Figures on the 1945 fish landings in Ketchikan were prepared for presentation by the Chamber of Commerce at the Army Engineers' hearing on improvement of local harbor facilities.

A cooperative program was carried out between this laboratory and two commercial laboratories. Independently, the three laboratories determined the vitamin A content of portions of identical lots of grayfish livers, and the results were found to check closely.

The Fishery Products Laboratory's research vessel, the Researcher, visited Coon Cove and Bostick Inlet to investigate the oyster beds, and Walden Rocks and Ship Rock to obtain abalone and other shellfish. It also stopped at various canneries between Ketchikan and Prince of Wales Island to secure data on unutilized resources.

On June 20 the Researcher left Ketchikan for Chatham Straits. Stops were made on June 21 at herring reduction plants at Washington Bay and Big Port Walter, and on June 22, at a plant in Port Armstrong, in order to obtain samples of herring at various points in the reduction processes. Quadruplicate samples, two to be processed and two to be frozen, were taken at each step of the process for each sample in the series. It is intended to take approximately 21 series of samples, seven from each plant, each on different operating days. For each series, samples are being taken of raw material, cooked material, press cake, dried meal, press liquor, first-run oil, finished oil, foots liquor, and stick water. Experience obtained in the first series of samplings at each plant indicated that the sampling plan should be comparatively successful. At the laboratory, trial experiments on herring taken from the cold-storage plant were continued. At the end of the month, analyses of the first set of samples received from the Researcher had begun.



Mayaguez, Puerto Rico

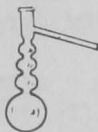
The earnings of fishermen using motor boats were compared with the earnings of the fishermen using sail boats. The use of motors resulted in higher earnings for the owner, captain, and crew members. The advantage came principally from being able to operate over greater distances without depending on the wind. The motor boat fishermen could make more trips per year.

Seattle, Wash.

Fillets from large numbers of individuals of the various species of rockfish were compared for odor, flavor, texture, and appearance. No significant differences could be found between the species, except that Sebastes melanops was usually slightly more tender. Recipes are being developed that take advantage of the shredlike texture of rockfish which allows it to be used somewhat like crabmeat.

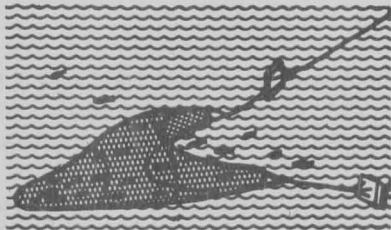
Determinations were made of the rate of decomposition of the vitamin A in grayfish livers during storage.

Two demonstrations were presented: "Cutting and Packaging of Fish for Home Locker Storage" to an audience of 250 homemakers at Frederick and Nelson's auditorium, and "Fish Cookery" at the Home Economics Department of the University of Washington.



OTTER TRAWL FISHING IN WASHINGTON AND OREGON

A considerable portion of the fish landed in Washington and Oregon are bottom fish. They consist of soles or flounders, halibut, and various species of rockfish and cod. Halibut are generally taken by hook and line. Soles and flounders are the most important species of bottom fish caught with the type of gear known as otter trawls. This type of gear consists of a large net, the mouth of which is held open by what are known as otter boards, one on each side of the net. The net is dragged along the ocean bottom from the stern of the fishing vessel and at regular intervals is hauled aboard to empty the catch of fish.



In addition to the soles or flounders, the principal species caught by otter trawl fishermen are Petrale or round-nose sole, English sole, and rex sole, long cod, and true cod. The livers and viscera of most of the bottom fish are important for their vitamin content and have come to represent a substantial revenue to fishermen during the last few years.

--Distribution Methods and Costs, Part IX,
Federal Trade Commission Summary, 1946.