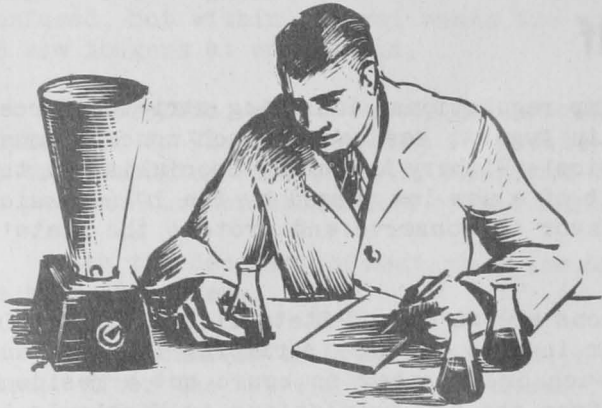


TECHNOLOGICAL RESEARCH IN SERVICE LABORATORIES

OCTOBER 1946

College Park, Md.

Cold-storage tests were begun on approximately 120 samples of Spanish mackerel fillets in sealed and unsealed wrappers of vinylite, saran, visten, cellophane,



aluminum foil, polyethylene, pliofilm, and freezer paper. The fillets contained approximately 13 percent of oil. They were quick-frozen and put into storage at 0° F. for examination at regular intervals. Palatability scores and pH values of frozen shucked oysters remained satisfactory after 7 months' storage.

Representatives of various manufacturers of wrapping materials visited the laboratory to obtain information on the packaging of seafoods.

Arrangements were made for experimental air shipments of fresh fish and shellfish to College Park to begin in November.

Twenty-four sample extracts of Alaskan shellfish were examined for mytilotoxine.

An educational exhibit was maintained at the Annual Conference of Food Service Directors in conjunction with the Convention of the National School Cafeteria Association from October 10-12 at Chicago. The exhibit was a cooperative venture of the National Fisheries Institute, the Oyster Institute of North America, and the Technological and Educational Sections of the Division of Commercial Fisheries. Over 400 people made specific requests for additional information on fish cookery in cafeterias.

Assays of thiamine by the rat-growth method are in progress for striped bass and Alaska pink salmon. Samples of deep-fried striped bass, baked haddock, and broiled Boston mackerel were prepared for later protein growth studies.

Palatability tests were made of canned fishery products, spiny lobsters, and codfish.

Several organisms isolated from Chesapeake Bay are being tested for substances antagonistic to fungi.

Tests for enterococci and coliforms were run on 96 sea water, 35 crabmeat, and 25 oyster samples during a week's stay of the mobile laboratory at Crisfield, Md.

A fishery leaflet was prepared covering preliminary work with fecal streptococci, and a technical leaflet was written describing the laboratory methods used. Work was continued on the improvement of the presumptive and confirmation media for the isolation of enterococci from water and food products.

Tests of a machine for taking bacteriological water samples from the bottom of any body of water were satisfactory.

Assistance was provided a fishing port interested in a rat eradication campaign.



Boston, Mass.

A company interested in processing fishery products at sea was given advice on the design and operation of vessels and gear.

A group of citizens of Newport, R. I., were advised on plans for development of their total fishery industries.

Demonstrations on the smoking, brining, dry-curing, and canning of fish at home were given at Ellsworth and Machias, Maine.

At New Bedford, the mobile laboratory continued bacteriological studies of fillet-dip brines and water samples from Narragansett Bay.

A report was prepared on the production of experimentally blown menhaden oils.

At Eastport, Maine, experiments on the electrical smoking of sardines indicated that best results would probably be obtained through the use of a very dense, cold smoke within a metal smoke box, the temperature of which is maintained sufficiently high to avoid condensation of moisture from the smoke. Recent tests included smoking sardines in the uncovered cans.

Lobster-pot rings exposed to the water in corrosion-resistance tests were lifted after 3 months' exposure and found to be in good condition.



Ketchikan, Alaska

Extracts were prepared from clams dug at Ketchikan, Carlton Island, Edna Bay, Prolewy Point, Scow Bay, Rosa Reef, Pow Island, Hood Bay, and Tongass Narrows and sent to the College Park, Md., laboratory to be tested on mice for the presence of mytilotoxine. An intensive survey of Alaska clam beaches was considered.

The methods developed for proximate analyses and for the determination of vitamin A, B₁, and B₂ have proven satisfactory in testing salmon cannery trimmings and samples from herring reduction plants. The types of salmon cannery trimmings being analyzed have been increased from 8 to 10, or a total of 50 for the 5 species. The tabulation of data on the separation of the parts of the salmon cannery trimmings has been begun.

A consumer-acceptance test was conducted on nine fishery products, including three involving a combination of pink salmon and Alaska vegetables. A specialty fisheries products company was assisted in developing a group of fish and kelp products with tourist appeal.



Seattle, Wash.

Various Washington fish packing firms were assisted in developing, installing, and operating canning, steaming, and smoking equipment and in preparing frozen seafood cocktails. A technologist was detailed to a Rhode Island port to evaluate the possibilities of expanding handling and processing facilities.

Several groups of veterans were given advice on opportunities in the fisheries of the Pacific Coast States and Alaska.

A fish-cookery demonstration was presented to a group of 75 people at the Home Economics Department of the University of Washington. Fresh, frozen, and canned rockfish were examined to determine the quality of these products as they are being offered to the consuming public.

Nine lectures and demonstrations on fishery methods and equipment were given to the University's Fishery Technology class.

Tests were begun on the changes in the oil content of pilchard meal, as measured by the A.O.A.C. method, that occur during storage.

Nordihydroguaiaretic acid (N.D.G.A.) is being tested as an antioxidant for vitamin A oils, salted pilchard, and frozen pink salmon fillets.

Analysis of silver hake livers revealed worth-while quantities of vitamin A. As a result, several thousand pounds of this previously unutilized material has been marketed by local fishermen for 40 cents per pound.

Tests were made on the effects of storage on the stability and quantities of the vitamin A in grayfish livers and liver oils. An abstract bibliography on methods of vitamin A analyses has been completed and is ready for distribution.

Sea water is the best diluent for bacterial plate counts on rockfish and crabmeat, according to recent data analyses.

Since sampling is a fundamental problem in determining the efficiency of a reduction plant, an investigation has been started on methods of sampling at various processing stages in fish reduction.

