TECHNOLOGICAL RESEARCH IN SERVICE LABORATORIES

NOVEMBER 1946

Mayaguez, P. R.

Fishermen of Puerto Real were assisted in planning the organization and financing of a production cooperative.

No cases of fish poisoning were reported during the month, and all the feeding tests were negative. Bacteria grown on fish samples held at room temperature appeared to produce a heat-labile, filterable toxin which produces illness or death when injected intraperitoneally into mice.

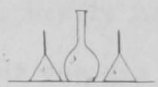
Boston, Mass.

An experimental pack of a new commercial fishery product was bacteriologically tested for sufficiency of process, and suggestions were made as to suitable packages and working methods.

At Eastport, Maine, further tests were run on the electrical smoking of sardines and also on the baking of the fish in the open cans. As a result of these tests, a smoke dehumidifier and a longer smoke-precipitation chamber will be tried.

A fillet packer, having trouble with a malodorous yellow slime that developed on the parchment wrapping of his product, was shown that some of the excess wrappers set out for his workers came in contact with moisture from the fillets and were then returned to stock to be used on succeeding days. When these wrappers were used later, they gave rise to the slime growth. It was suggested that any soiled excess wrappers be destroyed at the end of each day's operations.

A series of samples of water and clams from Parker River Refuge was examined bacteriologically.



College Park, Md.

Storage tests were begun on frozen oysters packed in a new, all-aluminum container and on frozen oysters and crab meat packed in a new fiber-body, metal-end container.

Tests were carried out on the insulating qualities of several containers. These containers, with various synthetic liners, will be used in experimental shipments of seafoods by air.

Analyses for thiamine (vitamin B_1) in striped bass and Alaska pink salmon by the rat-growth method were completed. Additional rats are being readied for control analysis of vitamin A in certain fish oils.

Palatability tests were conducted on nine lots of frozen oysters that had received various pretreatments, six lots of frozen oysters and 14 lots of frozen gray sea trout fillets in different packaging materials, 17 lots of fresh gray sea trout fillets, three lots of oysters on the half shell, two codfish recipes, and on various recipes developed especially for use in the school lunch program.

Various carbohydrates were tested for their effect on the production of antifungal substances by certain organisms grown in agar and liquid media. No one carbohydrate tried seemed to be more stimulating than the others.

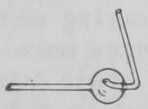
A lecture on air transport of seafoods was presented before a bacteriology class at the University of Maryland, and a demonstration of the packaging of fishery products for freezing was given for the foods class.

Thermal death times were determined for micrococci from crab meat. Bacteriological examinations were carried out on various samples of shucked oysters, oyster liquor, frozen shucked oysters, and on 25 samples of water, mud, and soil from a Patuxent Refuge lake.

Ketchikan, Alaska

Governor Gruening and other Alaskan and Federal officials met with industry representatives at Juneau on November 5 to take further steps in the mytilotoxine control study. The Fish and Wildlife Service undertook to plan an intensive survey of the mytilotoxine level of the Alaskan clam beds and to provide the necessary vessels, the Alaska Health Department agreed to lend personnel, and the Indian Service and the Alaska Development Board were to try to obtain funds for the work. The collection of clams was renewed late in the month. With the assistance of various packers, 35 different samples were obtained, extracted, and shipped to the Service's College Park, Md., laboratory for assay.

A newly organized food-packing company was assisted in the development of recipes for specialty items incorporating Alaska fishery products.



Seattle, Wash.

Personnel of a new Washington cannery were instructed in the operation of the canning machinery and a new circulating smokehouse that had been installed at the plant.

Tests were carried out on the analytical methods for determining oil in fish meal, the effects of storage conditions on the vitamin A content of grayfish livers, and the accuracy of the rapid tests for stability of vitamin A oils.

Seventy-five cans of commercially-packed Pacific rockfish were distributed to a home economics class for use as part of a meal at home. The members of the class will fill out consumer-acceptance questionnaires and return them to the laboratory for tabulation.

Storage tests were begun on a commercial seafood cocktail put up in different ways.

Samples of sardines canned experimentally in Maine and frozen pink salmon treated with N.D.G.A. were examined organoleptically.

At the request of the Bonneville Power Administration, a report was prepared on the possibility of establishing a sea-water magnesium plant in the Puget Sound area.

Cooked fish samples were analyzed for moisture, oil, and nitrogen. Pilchard meal samples were analyzed for oil content with various solvents to test the efficiency of different analytical methods and the effect of the aging of the meal.

The Service's third mobile laboratory was delivered to this laboratory by the outfitters. Also, there was received, on loan from the Quartermaster Corps, an Army trailer laboratory which will be used to provide additional working facilities for the scientific staff and as a mobile unit.

A considerable amount of time was devoted to assisting in the supervision of the outfitting of the factory vessel Pacific Explorer.

TRENDS IN THE FISHERIES

The trend of modern living encourages the processing of foods to a more advanced stage to simplify the task of meal preparation in the home. Technological advances have opened the way for improved methods of preserving perishable foods and for expanded use of byproducts.

As new equipment and packaging materials become more plentiful, there will be a tendency to freeze more fish products, to process them more rapidly, to store them at lower temperatures, and to package them in wrappers that are more attractive and that will resist loss of moisture or ingress of air. There will be emphasis on low bacterial counts and on other conditions that make for better quality.

--Fishery Leaflet No. 215