

TECHNOLOGICAL RESEARCH IN SERVICE LABORATORIES

MAY 1946

Mayaguez, Puerto Rico

Recommendations have been given to both dealers and primary producers for better handling practices in the marketing of fishery products. The poor financial condition of the Puerto Rican fishermen is a limiting factor in the introduction of refrigeration practices in handling their catch. The high cost of ice is a restrictive feature in the widespread use of ice for refrigeration of the catch.



The Agricultural Company, organized to promote fishing and agriculture in Puerto Rico, is shifting its fishery operations from the east coast of the Island to the west coast, particularly to Mona Island. This shift was made necessary by the failure of fishery programs in eastern waters.

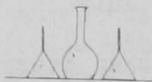


Boston, Mass.

Two series of experiments were made using an antioxidant made from a cereal as a means of extending the storage of raw sardines. There was no significant preserving effect which could be attributed to the antioxidant.

Nine experimental packs of sardines were prepared in which three different essential oil preparations were used. The use of California pilchard oil was found unsatisfactory because of the excessively fishy odor.

An experiment is being conducted on the use of antioxidants dispersed in cottonseed oil and in Irish moss gel on the keeping quality of frozen mackerel fillets.



College Park, Md.

An examination was made of oysters on the half-shell which had been frozen and held in storage for three months. They were judged to be inedible by the taste panel. Of four protective coatings used, the oysters which had been water-glazed and wrapped in moisture-vapor proof cellophane had the best appearance.

Several samples of packaging materials not previously available are now undergoing tests at the laboratory. These include the new FF type of pliofilm for frozen food packaging and a new plastic film, also polyethylene film and aluminum foil of 0.001 inch thickness. A sample of a "window" type container for fish fillets also was brought to the laboratory.

Samples of canned Peruvian fish were examined. These included smoked sprats, rockfish, and fish cakes.

Preliminary investigations have been started on the use of unpopular species of fresh-water fish for pet food.

Studies are being made on the thiochrome method for determining thiamine by the use of light absorption, employing the Beckman spectrophotometer.

The studies of fish oils for protective coatings are being continued. An apparatus for blowing a number of oil samples simultaneously has been constructed.

Work has been started on a new method of preparing glyceride gallate ester antioxidants.

Evidence to date indicates that the incorporation of high levels of DDT in fish meal fed to chickens has a deleterious effect on egg production.

Further work is in progress on an 8-hour test for coliform bacteria in seafood. This is a continuation of a project started before the war.

A complete review of the problem of poisoning due to the ingestion of fish has been made and will be published shortly.

Bacteriological studies were made of "raw" and "processed" caviar. The results indicated that pasteurization is an effective method of improving the bacteriological quality of the product.

Bacterial counts, hydrogen-ion concentration and organoleptic determinations are being made on oysters which have been given various dip treatments.

Samples of various frozen foods were examined for the presence of coliform bacteria and enterococci. The latter organisms were found to be present in most of the samples examined.

Further field studies with regard to sanitation have been made in fishing villages of the Chesapeake area. Progress in sanitation is becoming apparent in some of these places.

Work is continuing on the ecological study and significance of the enterococci with reference to pollution.

A survey of the literature dealing with air disinfection has been completed.

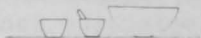


Ketchikan, Alaska

Sixty-five recipes for the Alaska Cook Book have been reviewed and tested. About 25 of these have been approved for final acceptance.

Studies of the filleting characteristics of Alaska rockfish have been continued.

A trip was made to investigate clam, shrimp, and crab resources on Northwest Gravina Island and in Cholmondoley Sound.



Seattle, Wash.

Tests are in progress to determine the keeping quality of smoked silver salmon packed in oil without processing.

After nine months in storage at 3° F., baked pilchards that had been frozen in blocks and then glazed were slightly rancid as compared with pilchards that had been vacuum packed in tin.

Baked sablefish that had been held in storage for nine months at 3° F. as cellophane-wrapped steaks was rancid in flavor when compared with fish which had been vacuum packed in tin. However, the latter had a flat flavor.

A molding device has been perfected for producing blocks and bars of frozen fillets. In continuous operation, the machine produces blocks of uniform weight, the variation being not over one-half ounce.

It has been found that ground grayfish livers, stored at room temperature in pint jars with a free space of from one-half to one inch and with the jar lid secured by a rubber ring, show no measurable loss of vitamin A in a period of one month.

