

TECHNOLOGICAL RESEARCH IN SERVICE LABORATORIES

DECEMBER 1946

Seattle, Wash.

Samples of fish meal, oil, and stickwater from a Minnesota carp-reduction plant were analyzed, and improvements in processing methods were suggested. A similar service was performed for a local producer.

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A local concern was aided in sorting out packages of frozen crab meat, which had been contaminated with fuel oil, from packages which were not contaminated. The contaminated packages were picked out by the difference in their fluorescence under ultra-violet light.

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SEATTLE, WASHINGTON

A sample of the largely discarded part of the viscera of the Dungeness crab, which is commonly called "crab fat," was submitted by the Washington State Department of Fisheries for assay of the oil and vitamin A contents. Despite its fat-like appearance, the sample contained 93.6 percent water and only 0.34 percent oil. This oil contained 24,700 USP units of vitamin A per gram; but, with so little oil, the "crab fat" sample would be worth less than one cent per pound for its vitamin A content on the basis of present prices.

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Pink salmon fillets that had been in frozen storage at 3° F. for three months were cooked and then tested by a taste panel. Better comparison should be obtained at the six-month test; but the following tentative conclusions were reached on the basis of the three-month scores:

1. No antioxidant treatment used was entirely effective in preventing incipient rancidity in the fatty surface flesh.
2. Fillets treated with solutions of N.D.G.A. in either water or cottonseed oil were free from off odor and were slightly preferable to untreated samples.
3. Ascorbic, citric, or benzoic acid did not noticeably improve the action of the N.D.G.A. but did cause off odors.

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A series of steelhead-trout steaks were prepared for testing similar to the above. They were dipped in water or in solutions containing various concentrations of N.D.G.A. and then packaged, frozen, and placed in storage at 5° F. These samples will be periodically compared with controls.

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After four months' storage at -5° F., samples of frozen silver salmon were rated for odor and flavor as follows:

Vacuum packed in tin cans - normal.

Foil wrapped - very slight incipient rancidity.

Cellophane wrapped - incipiently rancid.

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Uncooked king crabs, frozen in the shell, were thawed and cooked. The meat adhered to the shell and was extremely difficult to remove in satisfactory condition.

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In cooperation with university authorities and others, a series of 11 two-hour classes for fishermen and fishing industry employees was planned, under the supervision of the Adult Education Division for evening sessions, at the University of Washington School of Fisheries.

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Further analyses were made on stored lots of livers and liver oils in connection with the studies on vitamin A deterioration.

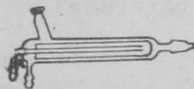
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The construction of the pilot plant was completed.



Boston, Mass.

At Eastport, Maine, a dehumidifier was installed to treat the smoke being used in the experiments on the electrical smoking of sardines. The dehumidified smoke gave greatly improved results.



College Park, Md.

Nine trial shipments of fish in three types of containers were sent by air from Tampa, Florida, to the College Park laboratory. Duplicates of two of the shipments were sent in advance by railway express so as to arrive on the same day as the air shipments. On arrival, the fish were stored in crushed ice; and, at intervals, samples were cooked and judged by a taste panel. In one case, the fish sent by air were judged to be better than the fish sent by rail, both immediately after arrival and after various periods of storage. In the other case, no difference was found.

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Fillets of Spanish mackerel and gray sea trout that had been in frozen storage in various wrappers for two months showed no appreciable changes. Oysters that

had been frozen for 9 months still had high palatability. Their pH values decreased only slightly during the past 5 months.

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Various basic recipes were tested to determine their suitability for future fish cookery demonstrations.

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A talk on the determination of the nutritive value of protein was given before the District of Columbia section of the Society for Experimental Biology and Medicine.

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Two lecture demonstrations and one talk on fish cookery were presented at Hunter College, New York City.

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Fifty-one extracts of Alaska clams were assayed for mytilotoxine.

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Twenty-four samples of mud and 192 samples of water from Narragansett Bay were gathered with the cooperation of the Rhode Island State Patrol and examined bacteriologically in the mobile laboratory while it was stationed at Wickford, Rhode Island.



Ketchikan, Alaska

With the cooperation of the Coast Guard, the Alaska Game Commission, and the Alaska Department of Health, clam samples, to be used for mytilotoxine assays, were collected from beaches in the following areas:

Upper St. John the Baptist Bay
St. John the Baptist Bay
Leo's Anchorage
Emmon's Island

Nakwasina Passage
Goddard Hot Springs
Krestoff Sound
Halibut Point

Petersburg

Mayaguez, P. R.

In cooperation with the Commissioner of Agriculture and Commerce, surveys were planned to determine the potentialities of the fresh water fisheries and the possibilities of establishing commercial fish ponds in Puerto Rico.

