TECHNOLOGICAL RESEARCH IN SERVICE LABORATORIES

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Considerable data were made available to the Insular Government on the importance of a fairly extensive fresh-water fisheries project for Puerto Rico.

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Additional data were also obtained for the economic survey of fisheries in Puerto Rico.

FISHERMAN'S HUT, PUERTO RICO

Boston, Mass.

Tests were made to determine the possible contamination of fish fillets by bacteria in fillet washing and brining tanks. The results indicate that the washing and brining tank of a fish filleting line must be considered a serious potential source of contamination of fillets, unless steps are taken for continuous removal of debris, and maintenance of a brine with sufficiently high chlorine content to eliminate the bacteria.

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Several new gallic acid derivatives were made which should be of value as antioxidants for fats.

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Considerable work was done on methods for the elimination of sardines infected with pepper spot (Ichthyosporidium hoferi) prior to canning. Methods based on the use of ultraviolet light to identify lesions, and the use of different concentrations of brine to separate the infected fish were not successful.

College Park, Md.

A number of comparable air-borne and rail express shipments of fish were made from ports in Florida to College Park. Extensive data were collected on duration of trips, temperature of fish, and results of organoleptic tests. A complete report covering these results is in the course of preparation.

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Regular monthly examinations were made of packages in frozen storage. There have been negligible changes in weight of packages of frozen fillets of sea trout and mackerel, except for samples wrapped in locker paper. The fillets so wrapped have shown extensive loss in weight and considerable "freezer-burn."

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Considerable time was spent in kitchen testing recipes for oysters, smoked pollock, and canned silver hake. A bulletin on oyster cookery is being prepared.

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A series of canned fish spreads have been prepared, which should be suitable for use on sandwiches in school lunches.

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Considerable work is being done on testing for the presence of enteric pathogens in materials from several different sources.

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Seventy-four samples of clam extract received from Ketchikan were bio-assayed for toxicity.

Ketchikan, Alaska

Surveys were conducted to determine the clam population of the east coast of Prince of Wales Island. The Kasaan Bay region has fairly large quantities of butter and Little Neck clams. Studies were continued to determine the toxicity of clams from various areas.

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Fair amounts of shrimp were taken in traps in Carroll Inlet, but the bottom is probably too rough for trawling.

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A pack of processed salmon cannery trimmings was examined after seven months of storage. The processed viscera and livers were spoiled. The milt packed in plain cans was spoiled, but that packed in "C" enamel cans was unaffected.

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A number of experimental products prepared at the Laboratory and by Alaskan firms were given organoleptic tests. The samples included fish puddings, smoked eulachons, canned late run herring, and sea cucumbers. The tests indicate these products were of high quality.

Seattle, Wash.

Experiments on frozen storage of Alaskan crab meat were continued. Tanner crab meat, like meat from Dungeness crab, does not store well. The meat from king crab was somewhat tougher, but still in good marketable condition after five months of storage.

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Laboratory investigations were begun to determine methods for analyzing fish livers with a low oil content. The methods now in use are not satisfactory.

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Several compounds were found for use with NDGA which were more satisfactory than citric acid as antioxidants. Phosphoric acid, although a good synergist, had the disadvantage of darkening the color of the oil.

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Additional data were collected on the use of pH as an index of freshness of oysters.

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Experiments were carried out to split fillets with a new commercial fish-skinning machine. Split fillets are more uniform in thickness, and may be more suitable for large scale cooking and serving.

NET DAMAGE INSPECTION

The first step in repairing damage to a net is to determine the type and the extent of the damage, so that the best mending procedure can be decided upon. The proper procedure allows the mender to restore the meshes by weaving in an uninterrupted sequence. The next step is to determine the trimming necessary. To do this, the damaged section of the net is stretched so that the strands line up easily. This is referred to as "straight twine" (Figure 5).

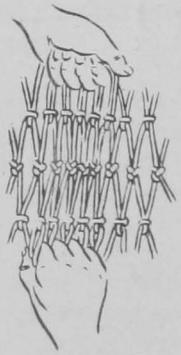

FIGURE 5
STRAIGHT TWINE

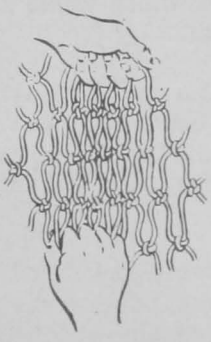

FIGURE 6
CROSSTWINE

The wrong way to stretch netting is known as "crosstwine" (Figure 6). Note how the strands tend to loop.

--Fishery Leaflet 241