



### ALASKA TRIES REFRIGERATED SEA WATER TECHNIQUE

Paralleling the interest of the Southeast Alaska fishermen in refrigerated sea water systems for holding fish aboard vessels, Alaska equipment distributors are naturally keeping a watchful eye on the development. One enterprising Ketchikan merchant has gone so far as to construct a small demonstration unit. Seine-caught herring serve as samples. A stainless steel washing machine tank wrapped with copper tubing, insulation, a compressor, and a pump for circulation are the essential components of this demonstration equipment for the application of the refrigerated sea water principle for quality maintenance.

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### STUDIES ON METHODS OF IMPROVING HANDLING OF SCALLOPS AT SEA

The U. S. Bureau of Commercial Fisheries, the Sea Scallop Industry, and the Massachusetts Divisions of Law Enforcement and Marine Fisheries have united in an effort to increase the "keepability" of sea scallops by the use of proper handling and icing practices aboard the vessel.

Methods of improving the handling of fish aboard the vessel are being studied by the Massachusetts Division of Marine Fisheries under contract with the Bureau of Commercial Fisheries, with funds provided by the Saltonstall-Kennedy Act of 1954. Patrick Walsh, who is presently employed under the terms of this contract, has made trips on several groundfish trawlers operating out of Boston. As a result a number of recommendations for increasing the keeping quality of fish have been made to the vessel owners of that port.

Because of the success of this project in the port of Boston, the scallop industry has requested that Walsh go aboard scallop vessels and advise that industry of the latest handling and icing techniques. He will make trips on several scallop vessels to observe the handling and storing of the fish at sea. Recommendations will then be made to vessel operators in the New Bedford area towards the objective of increasing the quality of the sea scallops landed in Massachusetts ports, thereby enabling the fisherman and vessel owner to obtain the best price for sea scallops.

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### USE OF MARINE OILS FOR FATLIQUORING LEATHER

Exhaustive laboratory tests of the feasibility of using fish-body oils in the tanning of skins into leather, followed by analysis of scientific data derived from semi-commercial-scale pilot-plant tests in a tannery, have shown no significant differences between leathers prepared from processes using fish-body oils and those using fish-liver oils. As was expected, in comparison with neetsfoot oil-containing

leather, both forms utilizing fish oils evidence (1) slight yellowing with age and (2) increased firmness. No spew formation (lumpy grease deposits) occurred in any of the test leathers. Both neetsfoot oils and cod-liver oils are normally used in the preparation of leather, the latter to make a firm leather, the former for soft leather. Degree of firmness appears to be a function of saturation of the fatty acids in the oils. These results, if accepted by the tanning industry, promise to open a new domestic market for fish-body oils, such as those derived from menhaden, since fish-liver oils are presently imported from Canada.

As a side issue of these studies, a process to prevent excessive heats of reaction between sulfuric acid and the menhaden oil during the sulfation process was developed. A public service patent is being sought to cover this new and valuable tanning technique. As usual, one of the chief results of research in this case has been to dispel in the tanning industry an unfounded prejudice against use of fish-body oils. It had been claimed that excessive polymerization of the fatty acids in such oils caused excessive firmness of the leather. Comparative tests showed no significant differences in firmness between aged leathers containing imported liver oils or domestic fish-body oils. The conclusions of tannery employees, based on subjective tests, were that the tests were not conclusive but the overwhelming weight of data derived from objective, scientifically controlled tests conclusively demonstrate that, under proper conditions, fish-body oils were successfully used, on a semicommercial scale, in the production of leather.

An article, prepared for a technical journal serving the leather industry, should be published in the near future. No further large-scale work is planned on this project. A concerted effort should now be made by the fish-body oil industry to capitalize on these findings. Processors should initiate cooperative work with the tanners to ensure our domestic oils their proper place in the leather industry.

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#### CORRECTION

In the article "Progress on Studies in Utilization of Fish Oil Derivatives in Ore Flotation" which appeared in the January 1958 issue of the Review, the sentence beginning on line 17 of page 19 should read: The work reported above was conducted at room temperature, but a few spot tests were made on iron ore at  $50^{\circ}$  C. and higher, using 0.5 pound of oleic acid and of the relatively saturated fraction (I.V. = 116) of a menhaden oil bulk fatty acid. . ."