

NOVEMBER 1949

BYPRODUCTS: Work was begun on the analyses of several hundred fish livers brought back by the Alaska exploratory vessel last spring from the northern Bering Sea area. These samples were made up largely of gray cod, lemon flounder, and yellowfin flounder but a few flathead flounder and other miscellaneous species were included. As far as is known, no vitamin A measurements have ever been made of livers from fish in this area.

REFRIGERATION: The last examination was made of 10 packs of frozen king crab after 68 to 72 weeks of storage at 0°F. Considerable variation existed in the quality of different pieces of crab meat within a single package. The presence of isolated pieces of poor quality crab meat was the limiting factor in governing the storage life of the samples.

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Tests were conducted on the fillet samples processed at Gloucester for the freezing-fish-at-sea experiments after the first month of storage. Free drip, press drip, salt content, and taste tests were conducted on cod, haddock, hake, and pollock fillet samples from fish frozen round in brine and in an air blast. These samples were compared with other samples which were gutted and iced to serve as controls. From a taste standpoint the samples from frozen round fish were preferred with no preference indicated between either the freezing in brine or the freezing before an air blast. Apparently brine freezing did not materially effect the salt content of the processed fillet.

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After 8 months of storage at 0°F., the fish that were first wrapped in vegetable parchment, then dipped in water, followed by wrapping in cellophane and freezing are still well coated with ice all over and show no signs of desiccation. The fish that were frozen first, then glazed and wrapped in cellophane show localized desiccation.

SANITATION: The U. S. Public Health Service has approved a grant of \$10,000 to the Atlantic States Marine Fisheries Commission for the purpose of making a sanitary survey of the shellfish areas along the Atlantic Coast. The survey will be under the direction of the Fish and Wildlife Service, the primary research agency for the Commission. The industrial waste study will include: 1. Compilation and analysis of past efforts and surveys. 2. A determination of the economic value of the polluted shellfish areas. 3. Assembly of findings with recommendations.

PRESERVATION: Tests are being conducted on the use of chemical preservation for salmon eggs without the use of heat processing. Preservatives such as mono-

chloroacetic acid, sodium benzoate, chloroform, citric acid, sodium borate, salicylic acid, carbon disulfide, and sodium sulfite were tried. Sodium sulfite seems to be the most effective. Other chemicals will be tested such as the various quaternary ammonium compounds.

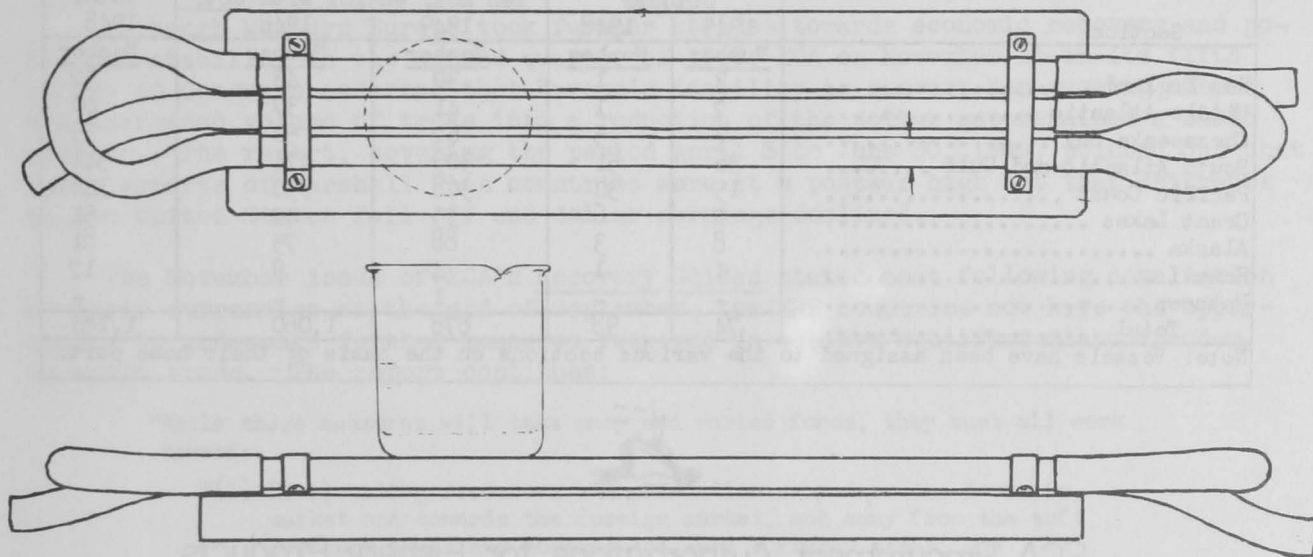
ANALYTICAL METHODS: Considerable progress was made in connection with microbiological assay of vitamin B₁₂. Reasonably good checks were obtained for the particular group of tests on samples run on different days and good recovery is being obtained when known amounts of vitamin B₁₂ are added to the samples.

Work has begun on biotin assays.

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TECHNICAL NOTE NO. 2-APPARATUS FOR EVAPORATION OF LOW-BOILING, INFLAMMABLE SOLVENTS

A device for evaporating low-boiling inflammable liquids, such as carbon disulfide, is shown in the figure.



DEVICE FOR EVAPORATING LOW-BOILING, INFLAMMABLE SOLVENTS.

It is made from pieces of glass tubing $\frac{3}{8}$ inch in diameter and 15 inches long. These are connected together by rubber tubing, as indicated in the diagram. Heat for the evaporation of the solvent is supplied by passing hot water through the glass tubing.

Soft copper tubing can be used in place of the glass. The copper has the advantage that it can be bent easily to conform to the shape of the evaporating vessel. Thus, where a beaker is used, both the bottom and side of the container can be heated.

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