RECENT FISHERY PUBLICATIONS

Listed below are informational publications which recently have been processed by the Division of Commercial Fisheries. The publications are available, free of charge, from the Fish and Wildlife Service, U. S. Department of the Interior, Washington 25, D. C.

Number	Title
CFS-352	Frozen Fish Report, July 1947
CFS-353	Maine Landings, May 1947
CFS-358	Massachusetts Landings, April 1947
CFS-362	Maine Landings, June 1947
FL-250	The Cuban Shark Industry and Cuban Government Fosters Fishing Cooperatives
FL-251	Gold Coast Sea Fisheries
FL-254	List of Fishery Associations in the United States and Alaska
FL-256	Outlook for Newfoundland Fisheries, 1947
FL-257	State Trading in Iceland with Respect to its Fisheries

Reprints (Separates) from Commercial Fisheries Review, August 1947.

Sep. No. 181 - Some Studies on the Feeding Value of Fish Meals
Sep. No. 182 - Some Studies on the Content of Thiamine and Anti-Thiamine Factor in Fishery Products
Sep. No. 183 - Ultraviolet Absorption Curves for Vitamin A Using Tungsten and Hydrogen Discharge Light Sources

Designations for fishery publications are interpreted as follows:

CFS - Current fishery statistics of the United States and Alaska.

SL - Statistical lists, consisting of lists of dealers of fishery products and manufacturers of byproducts.

FL - Fishery leaflets.

MDL - Market development lists of frozen food locker plants and locker associations.

Illustrator -- Shirley A. Briggs Compositors -- Jean Zalevsky and Norma C. Dressler

Processing -- Miscellaneous Service Division

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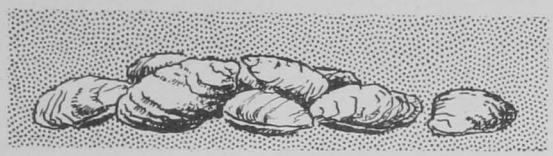
STUDIES ON OYSTER FEEDING



These studies were conducted to learn what effect different concentrations ot micro-organisms in sea water may have on the feeding activities of oysters. The micro-organisms were those which are considered as oyster food. Of these, *Chlorella* sp., *Nitzschia closterium* and *Euglena viridis* were most often used. It was found that heavy concentrations of micro-organisms interfered with the feeding of oysters by reducing the rate at which the oysters filtered the water through their gills. The type of shell movement was usually changed when the oysters were kept in water rich in micro-organisms. In very heavy concentrations pumping, and therefore feeding, ceased entirely. A correlation between the density of micro-organisms and the rate of feeding was often noticed. In light concentrations the rate of feeding and shell movements of the oysters remained normal and sometimes the presence of small quantities of plankton in sea water stimulated the pumping activities.

The size of the micro-organisms was found important because a much larger number of small cells, such as *Chlorella*, was needed to produce the same effect as caused by a smaller number of larger cells. Both the cells of the micro-organisms and the products which they released in the water affected the oysters. The cells interfered with the normal function of the gills, while the products which they released contained substances inhibiting the oysters.

The quantities of pseudo feces were usually roughly proportional to the quantities of food cells present in the water, whereas a reverse relationship existed in the formation of true feces. The presence of large quantities of pseudo feces usually indicated that feeding proceeded under the unfavorable condition caused by a heavy concentration of food cells in the water.

The results of the experiments showed that oysters feed efficiently only if the water contains small quantities of suspended matter. Oysters can also feed in water containing a relatively large number of micro-organisms, but under such conditions the rate of feeding is decreased.

EFFECT OF DIFFERENT CONCENTRATIONS OF MICRO-ORGANISMS
ON THE FEEDING OF OYSTERS (O. VIRGINICA) -- FISHERY BULLETIN 42

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