Flanagan - Int. 2879 or Sater - Int. 2809

# DEPARTMENT OF THE INTERIOR

*INFORMATION SERVICE*

FISH AND WILDLIFE SERVICE

For Release To PM's, OCTOBER 13, 1959

RESEARCH PROVES VALUE OF FISH BODY OIL IN REDUCING CHOLESTEROL LEVELS

Relief for persons with high cholesterol levels in blood serum is indicated by research programs reported today by the Department of the Interior.

The findings are the result of a series of research projects on fish body oil conducted by the Bureau of Commercial Fisheries, Fish and Wildlife Service, and by the Hormel Institute of the University of Minnesota operating under a Bureau contract.

Bureau officials hope that their efforts will encourage clinical testing by responsible medical research staffs to evaluate the results obtained to date and t further explore the application of these results to conditions which may cause or aggravate atherosclerosis and kindred diseases. Bureau officials further state that the research has opened the way for the development of a food supplement composed of those fractions of fish oil which are the most effective in lowering the blood cholesterol level.

These discoveries were incidental to a Bureau basic research program to "take fish oil apart, molecule by molecule, and see just what it contains". Once the unique blood cholesterol depressent effects of fish oils were noted, research programs were inaugurated to explore them. Technicians state that there is still considerable basic research needed to fully explore the properties of fish oils.

The key findings of the research are (1) the abundance of what is known as "unsaturated" fatty acids in the body oils of many species of fish, and (2) proof that the feeding of these "unsaturated" fatty acids to test animals reduced the cholesterol levels in direct proportion to the degree of unsaturation.

The term "unsaturated" in this instance applies to those fats in which there are carbon atoms which have not combined to the fullest possible extent and which are capable of uniting with certain elements or compounds to change the character of the fat.

A "saturated" fat, such as lard, congeals at low temperatures. An "unsaturated" fat does not congeal readily. This is the property which permits oil-laden fish to move freely in waters of low temperatures.

Bureau research has shown that about half of the body oil of most species of fish is unsaturated and about 10 percent of it is highly unsaturated. This latter portion of the fish oil contains five or six unsaturated carbon atoms per "chain", compared with only two such atoms in vegetable oil. In other words the potential of fish oil in reducing the cholesterol level is approximately three times that of vegetable oils.

Second only to the Bureau findings that unsaturated fish oils readily reduce the blood cholesterol levels is the development of a method to separate the highly unsaturated 10 percent from the rest of the oil. It is this method which makes it possible to utilize only the essential part of fish oil in reducing cholesterol levels. Thus the patient would take only one-tenth of the calories contained in the whole oil.

The process of separating the unsaturated fatty acids from the rest of the oil requires some very definite conditions to maintain the value of the product and avoid possible toxicity, Bureau officials state, adding that this is another reason why the findings should be clinically tested.

Among the fish which have liberal amounts of body oils are salmon, mullet, mackerel and herring. Menhaden is not now used as food fish but it yields considerable amounts of highly unsaturated oils.

x x x