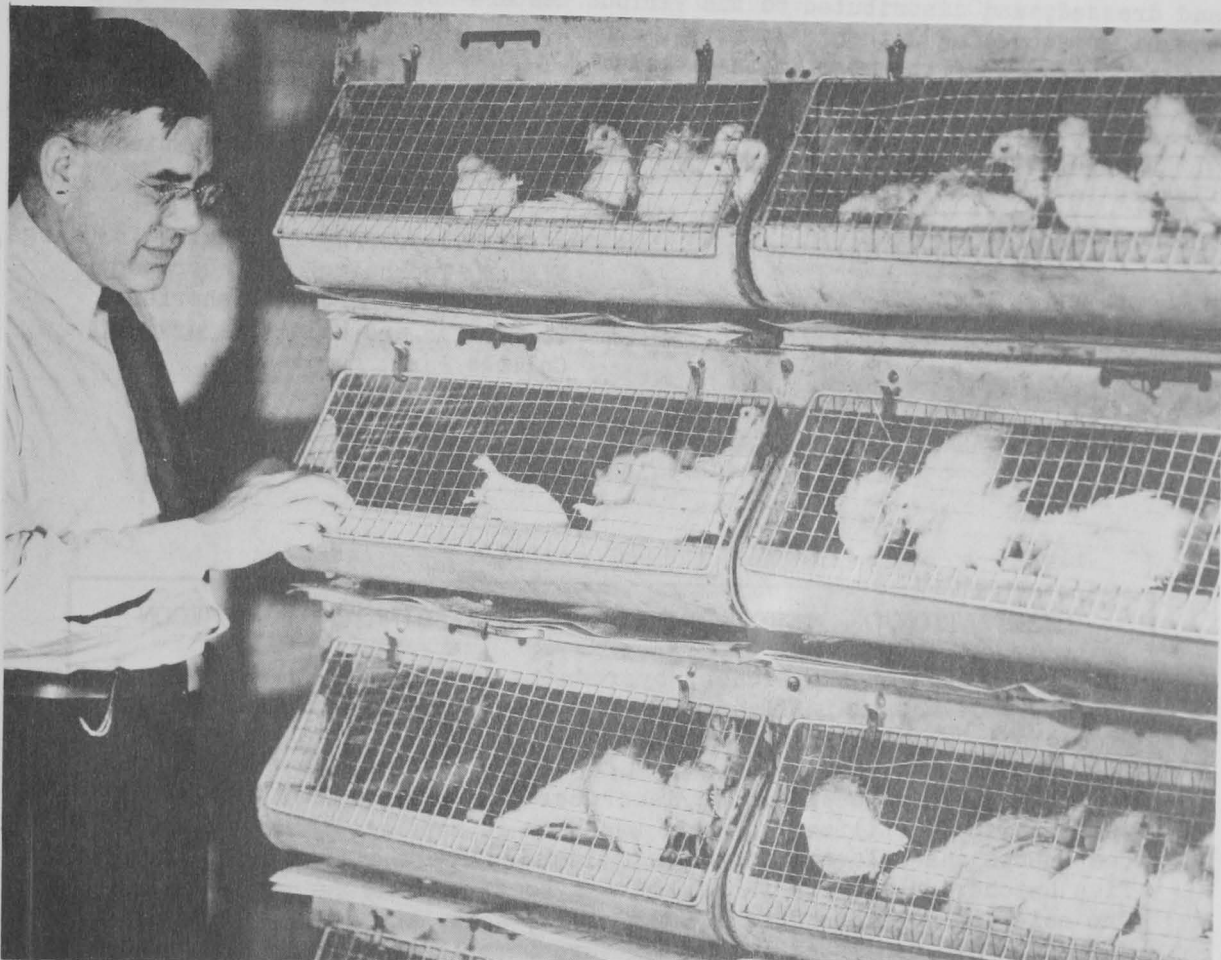


TECHNICAL NOTE NO. 23 - FEEDING FISH MEALS AND SOLUBLES TO CHICKENS DOES NOT AFFECT FLAVOR OF MEAT

Previous tests conducted at the Fishery Technological Laboratory at College Park, Maryland, have shown that feeding chickens, turkeys, and ducks diets containing as much as 30-percent fish meal did not cause off-flavors in the meat. No previous work had been done with condensed fish solubles.



NO OFF-FLAVORS DEVELOPED IN THE MEAT OF WHITE LEGHORN CHICKS FED DIETS CONTAINING FISH MEALS AND SOLUBLES.

Early in February, 15 white Leghorn chicks (which had been on a four-week assay of the vitamin B₁₂ content of various condensed fish solubles) were fed the following diet: About 10 percent menhaden fish meal, 13 percent condensed menhaden fish solubles, 7 percent alfalfa meal, and 70 percent ground yellow corn meal (percentages all based on weight). This is not a diet to be recommended for raising chickens, but it should permit evaluating the fishery products in respect to producing off-flavors in the meat.

After feeding this diet to the birds 4 to 8 weeks, they were butchered and dressed. The dressed birds were distributed to various staff members for cooking and taste-testing. This method was used because each individual could prepare the birds according to his favorite recipe. The tester would thus be familiar with the desirable flavor expected and could more easily detect any off-flavors. Only one

person thought he could detect a fishy flavor but he was not sure of it. The others reported the flavor and texture of the meat to be excellent.

On May 7, 16 white Leghorn chicks (which had been on a five-week test to determine the nutritive value of the protein of a series of fish meals and condensed fish solubles) were fed the following diet: About 20 percent condensed menhaden solubles, 3 percent alfalfa meal, 1 percent cod-liver oil, and 76 percent ground yellow corn meal (percentages all based on weight). Growth was rather slow, otherwise the birds seemed to fatten nicely. Between June 1 and June 30, the birds were butchered and dressed, and distributed to the various testers who again cooked and prepared the birds according to their favorite recipes. All of the people reported the flavor and texture of the meat to be excellent.

These short-time studies indicate that the meals and condensed fish solubles which were tested (all of them were low in oil) did not produce any distinct off-flavors in the meat of chickens.

--Hugo W. Nilson, Pharmacologist in Charge,
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UTILIZATION OF FISHERY BYPRODUCTS IN WASHINGTON AND OREGON

The status of the fishery byproducts industry in Washington and Oregon is discussed in Fishery Leaflet 370, Utilization of Fishery By-Products in Washington and Oregon, by F. Bruce Sanford.

This 24-page publication describes the utilization of the fish waste which is utilized as whole waste or is separated into its various components and selected portions utilized. The whole waste is used in fish hatcheries, on fur farms, in pet food, and in reduction plants. The selected portions used are the skins, eggs, and livers and viscera. The skins are processed for manufacture into leather for women's shoes; the eggs are made into caviar and fish bait; and the livers and viscera are rendered for oil and vitamin A.

Various producing areas in the two States are pointed out in this leaflet. It indicates that the most important in Washington are Puget Sound, Grays Harbor, Columbia River, and Willapa Harbor. In Oregon, the Astoria-Warrenton-Hammond area is the center of greatest production; also important are Yaquina Bay, Coos Bay, and Tillamook Bay.

Free copies of Fishery Leaflet 370 are available upon request from the Division of Information, U. S. Fish and Wildlife Service, Washington 25, D. C.