

TRENDS AND DEVELOPMENTS

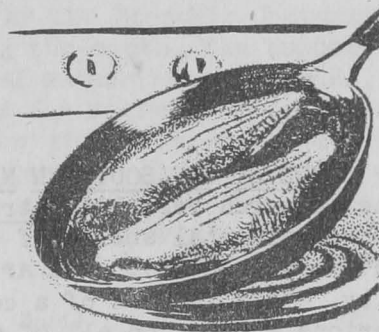
Abstract

A METHOD FOR EVALUATION OF THE NUTRITIVE VALUE OF A PROTEIN--(A Comparison of Broiled and Pan-fried Striped Bass Fillets), by Hugo W. Nilson, William A. Martinek, and Dorothy B. Darling.

A method has been proposed for the evaluation of the nutritive value of a protein which depends on feeding tests with growing animals. Approximately equal quantities of the test or comparison proteins must be consumed by all animals during the feeding period. The quantity of protein to be fed is limited to that which will not permit normal growth rate, but will permit good health. The basal diet consisting of sources of calories, vitamins, and minerals is allowed ad libitum. The effect on growth of the more important variables is corrected for by multiple regression.

It was found as an illustrative example that the proteins of broiled and pan-fried striped bass fillets possess equal nutritive value in respect to supplemental or balancing value. About 37 percent of the protein intake was found to be stored in the body during the 8-week period. Nine of 12 rats stored a mean of 11 percent of the total caloric intake as fat. They stored about 17 percent of the total caloric intake as combined fat and protein.

A review of literature and complete report of experimental data are published in Fishery Leaflet 296. A copy of this leaflet may be obtained from the Division of Information, Fish and Wildlife Service, Washington 25, D. C.



Additions to the Fleet of U. S. Fishing Vessels

A total of 98 vessels of five net tons and over received their first documents as fishing craft during October 1948, 19 less than in the previous month, and 33 less than in October 1947, according to the Bureau of Customs' Monthly Supplement to Merchant Vessels of the United States. Louisiana led with 16 vessels, followed by California and Washington with 14 vessels each. First documents as fishing craft were received by 1,059 vessels during the first 10 months of 1948 compared with 1,157 during the same period in 1947. Nearly two-thirds of the fishing vessels documented during the first ten months of 1948 had their home port in five States and Alaska.

California led with 166; followed by Louisiana, 145; Washington, 128; Texas, 84; Florida, 78; and Alaska, 75.

Vessels Obtaining Their First Documents as Fishing Craft

Section	October		Ten mos. ending with Oct.		Total
	1948	1947 ^{1/}	1948	1947 ^{1/}	1947 ^{1/}
	Number	Number	Number	Number	Number
New England	1	4	43	49	55
Middle Atlantic	1	7	37	56	64
Chesapeake Bay	5	7	50	70	83
South Atlantic and Gulf	51	58	474	417	486
Pacific Coast	30	39	329	387	415
Great Lakes	6	6	42	40	45
Alaska	3	8	75	112	123
Hawaii	1	2	9	25	28
Puerto Rico	-	-	-	1	1
Total	98	131	1,059	1,157	1,300

^{1/}Revised.

Note: Vessels have been assigned to the various sections on the basis of their home port.

Albatross III

SURVEY OFF SOUTHERN NEW ENGLAND: Scientists of the Service working aboard the research vessel Albatross III completed a survey of the fish populations on the continental shelf off southern New England on its 12th cruise (October 28-November 6, 1948). The area surveyed was between Martha's Vineyard and New York City. This is part of a continuing program to estimate the number of fish of various species on all of the New England banks.

On this cruise, the vessel occupied 35 stations and the net was towed 50 times. The principal species caught were whiting, scup, and butterfish. A large number of baby haddock were caught in the area south of Long Island. This is a rather unusual occurrence in this region and confirms reports that small haddock are being taken by commercial gear here.

Observations on the acid waste disposal area off Long Branch, N. J., started last spring, were continued on this cruise. About 80 pictures of the bottom were taken with the underwater camera in the disposal area and a control region. A net tow made in the disposal area caught whiting, redhake, butterfish, several species of flounders, small shad, and a number of small haddock.

The vessel will continue the survey of fish populations in the near future with 2 cruises to the waters off the Maine coast.

* * * * *

CONTINUES NET RESEARCH: Working aboard the Albatross III on its 13th cruise (November 18-19, 1948), Service scientists continued studies of nets designed to save small fish. The vessel fished in the area 10 miles south of Martha's Vineyard.

A special experimental net having four cod ends was used for these experiments which are designed to test the effectiveness of large mesh nets in allowing young fish to escape through the net. Large numbers of small fish are destroyed every

year by the present nets and this may be one of the causes for the lowered production of the New England banks.

Experiments were conducted last spring to determine the survival of fish passing through the net meshes. The present series carries on the large mesh experiments and will give information on the size of fish of various species which escape through the net and how fish would distribute themselves in the four cod ends.

Further cruises will be made in which various sizes of mesh will be used in the cod ends to test escapement.



ECA Procurement Authorizations for Fishery Products

There were no procurement authorizations for fishery products among the authorizations for commodities and raw materials announced by the Economic Cooperation Administration during December 1948. However, during the month, the amounts of two previous authorizations were decreased--an original authorization of \$128,800 for the purchase of canned fish from the United States for delivery to Greece was reduced by \$120,000 leaving only a balance of \$8,800 for this item; and an original authorization of \$800,000 for the purchase of shark liver oil from Chile for delivery to France was reduced by \$550,000 leaving only a balance of \$250,000. On the latter item, the country of origin was amended from Chile to any Latin American country except Brazil and the Argentine Republic.

Total ECA Procurement Authorizations for Fishery Products, April 1 - December 31, 1948

Product	Country of Origin	Procuring Agency	Recipient Country	Amount Authorized
Fish, canned	U. S.	Greece	Greece	\$ 8,800
Fish, salted	Newfoundland & Canada	Italy & Greece	Italy & Greece	7,259,000
Fish meal	Canada, Iceland, Norway, & Angola	Denmark, Austria, & U.S. Dept. Army	Denmark, Austria, & Bizone Germany	3,457,361
Oil, herring	Iceland	U.S. Dept. Army	Bizone Germany	1,694,000
" , seal	Newfoundland	France	France	257,600
" , shark liver	Latin America, except Argentine & Brazil	-	France	250,000
" , technical fish	U. S.	U.S. Dept. Army	Bizone Germany	100,000
" , whale	Netherlands, Belgium, & Norway	Austria & U.S. Dept. Army	Austria & Bizone Germany	7,192,150
Grand Total Authorized				\$20,218,911

1/Where the recipient country is shown as the procuring agency, the Government of the participating country or its authorized agents or importers do the purchasing.

Since most of the funds for the 15-month period from April 1, 1948, to June 30, 1949, have been allocated, there will be very few authorizations for fishery products through the balance of the period.



Federal Purchases of Fishery Products

DEPARTMENT OF THE ARMY, October 1948: Purchases of fresh and frozen fishery products during October 1948 by the Army Quartermaster Corps for the U. S. Army, Navy, Marine Corps, and Air Force for military feeding amounted to 1,516,239 pounds valued at \$566,426. The total purchases to date, January through October, totaled 14,188,555 pounds valued at \$5,068,245.



Inaugural Meeting of Indo-Pacific Fisheries

The Agreement to form an Indo-Pacific Fisheries Council for the investigation, development, and proper utilization of the aquatic resources of South East Asia, drawn up at Baguio, Republic of the Philippines, on February 28, 1948, has been accepted by the governments of France, the Republic of the Philippines, the United States of America, Siam, India, the Netherlands, and Burma. The Council came into being on November 9, 1948, when the fifth acceptance of the Agreement was received at FAO headquarters.

Article IX of the Agreement provides that it "shall enter into force upon the date of receipt of the fifth notification of acceptance." Notification from India, the fifth to be deposited, was received by FAO on November 9.

The inaugural meeting of the Indo-Pacific Fisheries Council will be held in Singapore beginning March 24, 1949. A copy of the provisional agenda follows:

PROVISIONAL AGENDA

1. Opening of Meeting by Director-General of FAO.
2. Election of Chairman and Vice-Chairman of the Council.
3. Adoption of Agenda.
4. Adoption of Conference Rules.
5. Appointment of Committees of the Conference (Credentials, Steering, and Drafting).
6. Organization of the Council.
7. Rules of Procedure of the Council.
8. Appointment of Technical Committees of the Council.
9. FAO Journeys Fund.
10. Technical Committees: Presentation of reports of interim working committees and discussion of Council activities.
11. Publications.
12. Budget (Travel and Publications).

Plans are also being made to hold a symposium on the subject of "Pelagic Fisheries," for which three evening meetings are being set aside.

Although the meeting is of primary interest to governments in the Indo-Pacific area, all Member Governments of FAO are invited to send representatives who, if their Government has not accepted the Agreement, will be received as observers.



International Fisheries Conference in Java

Two interim working committees of the proposed Indo-Pacific Fisheries Council, sponsored by the Food and Agriculture Organization, met at Buitenzorg, Java, from October 8 to 15. Fishery representatives were present from the Philippines, Malaya, Singapore, North Borneo, Netherlands, Indonesia, and Hongkong to discuss present and proposed programs of research in the Celebes and Sulu Seas and adjacent waters. Following discussion of the reports, the meeting proceeded to consideration of means whereby the various programs might be integrated and their results most efficiently developed for the use of the nations represented. According to a report from the American Consulate at Batavia, the meeting passed a series of resolutions to these ends. A summarization follows:

Resolution I - In the absence of direct representation of the U. S. Fish and Wildlife Service and the Philippine Fishery Program, requests the Director of the Philippine Bureau of Fisheries to furnish the Secretariat with information especially on the biological results of the Philippine Fishery Program; and requests the Secretariat to establish formal contact with the U. S. fisheries program in this area to ensure its full participation in the activities of the Council.

Resolution II - Urges the Governments in possession of Japanese Oceanographic data relating to the Indo-Pacific area waters to make them freely available to all workers of the area.

Resolution III - Recommends that the Council at its Inaugural Meeting declare its interest in socio-economic problems, appoint a Technical Committee for social and economic work, and that urgent consideration be given to the methods by which fishermen might be freed from indebtedness preferably by the widespread foundation of Government Credit Organizations.

Resolution IV - Recommends to the Governments represented that coordinated oceanographical programs for the Celebes and Sulu Seas and adjacent waters be initiated to fit in with the current Philippine Fishery Program; that the Council fully coordinate the area's programs; and that the Secretariat propose a pattern of work for Indonesian operations in water east of the Halmaheras, and later for North Borneo operations in South China Sea.

Resolution V - To request the Secretariat to ascertain the observation and sampling program being followed by the Philippine workers and to recommend to member Governments that they adopt this as a minimum program.

Resolution VI - Since a major interest is the developing of pelagic fisheries in the Celebes and Sulu Seas and adjacent waters, recommends to the Governments represented that their hydrological and biological programs be as complete as possible; and recommends to the Council that this recommendation be presented to other Governments.

Resolution VII - Recommends to the Council the establishment of a panel of specialists to render advice, to make recommendation on methods of collection and observation, and where possible, to receive and handle collections made in the area; and that duplicate material of all collections made in the area be retained under the supervision of the specialists concerned with the groups represented.

Resolution VIII - Recommends to the Council that it encourage the establishment of more fellowships and the agreement of member Governments to the provision of reciprocal facilities for work.

Resolution IX - Recommends to the Council that it take steps to secure through its technical committees standardization of terminology and methods; and that the Secretariat undertake a compilation of existing conventions on standardization for the interim use of workers in the area.

Resolution X - Recommends to the FAO and to the Council that the functions of the Secretariat should include the maintenance of a Central Bureau to receive and collate results of the work in the area, and that the staff of the Secretariat should be expanded to include a technical assistant to handle the work.

Resolution XI - Recommends to the Council that the work of its technical committees be actively developed to include effective and continuing review of the progress of the area's programs.



Outlook for Fishery Products in 1949

CONSUMPTION AND PRICES: Civilian consumption of fish, especially of the fresh and frozen products, continued at a high rate during 1948. Supplies of fresh and frozen fish will be plentiful throughout the current winter season. Retail prices of these commodities probably will remain at current levels, according to an article prepared in cooperation with the Fish and Wildlife Service and appearing in the Bureau of Agricultural Economics publication, The National Food Situation.

PRODUCTION: Commercial fishing activities are likely to continue this winter in full swing so long as the weather permits. Commercial freezing of fish is expected to continue on a scale consistent with the supply of raw materials. Supplies of canned fish available for market early in 1949, probably will be no larger than a year ago. Although the 1948 pack of tuna exceeds last year's record output by a half million cases or more, the 1948 production of salmon was lower than in 1947. For the first time in history, tuna-fishing operations in 1948 were conducted in the waters adjacent to Alaska. In previous years, although tuna were occasionally caught in this area, fishermen concentrated their efforts on the salmon run.

IMPORTS: Imports of fish, especially fresh and frozen groundfish and rosefish fillets, are expected to continue at a high rate during most of 1949. Receipts of fresh and frozen fillets from Iceland may be larger than in 1948.

EXPORTS: Exports probably will be no larger than in 1948. Exports were low in 1948 relative to the levels reached in the two preceding years. This was due in large part to the shortage of dollar resources of foreign countries. This situation is likely to be a deterrent factor in the expansion of exports in 1949 above the preceding year's level.

AVAILABLE SUPPLIES: Supplies of fish, except possibly those of canned fish, are expected to be plentiful throughout most of 1949. Civilian demand for fish is likely to continue strong throughout most of the year. During the latter half, retail prices of fish could recede somewhat from early 1949 levels if market supplies of livestock products increase as is currently anticipated.



Pacific Oceanic Fishery Investigations

PROGRESS OF ORGANIZATION: The staff of the Pacific Oceanic Fishery Investigations, although as yet incomplete, initiated arrangements during October and

November to obtain permanent quarters at Honolulu. Until permanent space can be obtained or built, the temporary offices in Hawaii will be located in a vacant Navy building. The repairs and overhauling of two vessels acquired by the Investigations were delayed during October by the West Coast shipping tie-up. However, in November, the contracts for the work were awarded and reconditioning activities of the two vessels towards the end of the month were well under way.

Will Render Advice on U. S. Pacific Trust Territory's Fisheries: Following the announcement on September 29, that the State, Navy, and Interior Departments had approved the opening of the U. S. Trust Territory of the Pacific Islands to commercial fishing, the Pacific Oceanic Fishery Investigations was designated to represent the Department of the Interior in rendering advice on matters relating to the administration, regulation, and development of the fisheries of the Trust Territory. (See Commercial Fisheries Review, November 1948, page 68.) Later, during October, there was a similar designation with respect to American Samoa.

The Navy, in November, approved the log book and record forms prepared by the Investigations for the use of fishing companies and fishermen operating in the U. S. Trust Territory. Arrangements have been made to start the recording of data on these forms whenever fishing begins in the Investigations' area.

Bibliography of Pacific High Seas Fishes: By the end of November, a fairly extensive bibliography had been assembled of Japanese papers relating to the biology and technology of the Pacific high seas fishes and fisheries, particularly the tunas.



Per Capita Fish Consumption Increased in 1948

The per capita consumption of fish and shellfish during 1948 was 11 pounds (edible weight) compared to 10.8 pounds (edible weight) for 1947, according to a preliminary estimate released by the Bureau of Agricultural Economics, Department of Agriculture.

Per Capita Consumption of Fish and Shellfish

	1948	1947	1946	1945	1944	Average 1935-39	1948 as a percentage of	
	Prel.						1947	1935-39
	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	%	%
Fish (edible weight):								
Fresh and frozen	6.5	6.2	6.2	7.1	5.6	5.3	105	123
Canned/	4.5	3.8	3.8	2.6	2.6	4.8	} 98	78
Cured8	1.0	.9	.7	1.0		
Total	11.0	10.8	11.0	10.6	8.9	11.1	102	99

1/Excludes canned food products containing small quantities of fish; i.e., clam chowder, etc.

Although the 1948 figure is slightly higher than 1947, it is still slightly below the average for the period 1935-39. The 1948 estimated consumption was 102 percent of 1947 and 99 percent of the 1935-39 average.



Puerto Rican Fishing Vessel Ceases Operations in North Atlantic

The Reina del Caribe, a 70-foot Puerto Rican auxiliary dragger-seiner, owned by the Puerto Rican Agricultural Company, was ordered to cease operations in the

North Atlantic in October 1948, according to the Service's Fishery Marketing Agent in Mayaguez, Puerto Rico. This vessel fished out of Gloucester for rosefish during the summer of 1948, and in December was anchored at Brielle, New Jersey. (See Commercial Fisheries Review, October 1948, page 28.)



Virginia's 1948 Menhaden Catch Declines

PRODUCTION: The total menhaden catch in Virginia during the 1948 season, which ended in October, was 40,200,000 pounds (60 million fish) below the 1947 season, according to a November 15 report from the Service's Fishery Marketing Specialist at Weems, Va. In 1948, the total menhaden landings by a fleet of 18



BRAILING MENHADEN FROM THE PURSE SEINE

boats was 131,320,000 pounds (196 million fish) compared with 170,180,000 pounds (254 million fish) in 1947. The individual vessel catches for 1948 ranged from a high of 10,570,000 pounds (about 16 million fish) to a low of 4,207,000 pounds (6 million fish). The fish were processed by six plants which ceased operations at the end of the season. However, some of the menhaden boats departed for southern waters to follow the fish in their fall migration. These vessels will land their trips at southern factories for processing on a percentage basis.

PRICES: Menhaden oil prices during 1948 started at 20 cents per pound, dropped to 12 cents, and towards the middle of November were about 14 cents per pound. A number of firms made a practice of selling their oil on contract rather than on the basis of current quotations. The highest price in menhaden fishing history was paid for oil during the fall of 1947, when it sold at 21 cents per pound.

In Virginia, most of the scrap produced by the menhaden factories is sold before being ground into meal. The menhaden scrap prices are partly governed by the analysis of its nutrient content. During the early part of November 1948, the price leveled off to about \$100 per ton. After ceiling prices were removed in 1946, it sold at \$100 per ton, but at the end of 1947, it reached \$110 per ton and a few tons actually brought \$140 per ton during the winter of 1947.

YIELD: The yield of scrap remains fairly constant at around 70 tons for every 670,000 pounds of fish (one million fish). The yield of menhaden oil was as low as .014 gallon for every 670 pounds of fish (one thousand fish) at Reedville during July 1947. Of course, fish can be received at the factory in such a condition of putrefaction that the oil yield is even less, but such a yield would lose its significance. At the other extreme, are yields of 9.94 and 13.26 gallons for every 670 pounds of fish (one thousand fish) at Reedville during October 1948.

As yet, there is little movement in Virginia toward recovering stickwater concentrate, a valuable byproduct of oil settling.

Wholesale and Retail Prices

The wholesale index for all commodities as of November 16, 1948, continued to drop and was 0.4 percent less than October 12, but still 2.8 percent higher than November 18, 1947. On the other hand, wholesale food prices showed a slight increase of 0.1 percent over October 12, 1948, but were still 1.4 percent less than November 18, 1947, according to the Bureau of Labor Statistics of the Department of Labor.

At Seattle, the wholesale average price of canned pink salmon during November 1948 was 1.7 percent lower than the previous month, but still 18.7 percent higher than November 1947. Canned red salmon remained steady at the same average price which prevailed during September and October 1948, and was only 5.9 percent higher than in November 1947.

Wholesale and Retail Prices

Item	Unit	Percentage change from--		
		Nov. 16, 1948	Oct. 12, 1948	Nov. 18, 1947
<u>Wholesale: (1926 = 100)</u>				
All commodities	Index No.	164.3	-0.4	+2.8
Foods	do	177.5	+0.1	-1.4
Fish:		<u>Nov. 1948</u>	<u>Oct. 1948</u>	<u>Nov. 1947</u>
Canned salmon, Seattle:				
Pink, No. 1, Tall	\$ per doz. cans	5.812	-1.7	+18.7
Red, No. 1, Tall	do	6.649	0	+ 5.9
Cod, cured, large shore, Gloucester, Mass.	\$ per 100 lbs.	15.00	0	+ 3.4
<u>Retail: (1935-39 = 100)</u>				
All foods	Index No.	<u>Nov. 15, 1948</u>	<u>Oct. 15, 1948</u>	<u>Nov. 15, 1947</u>
		207.5	-1.9	+2.4
Fish:				
Fresh, frozen, and canned	do	328.1	+0.7	+8.5
Fresh and frozen	do	268.1	-0.8	+2.2
Canned salmon:				
Pink	¢ per lb. can	61.3	+3.2	+20.9

The continued substantial drop in food prices as of November 15, 1948, marked the fourth consecutive month in which the retail food index has declined. From the record high reached in July 1948, retail food prices have dropped more than 4 percent to a level of only 2.4 percent above November 1947. The retail fresh and frozen fish index, which reached a peak on October 15, 1948, of 270.2 percent of the 1935-39 average, followed the trend of other foods and as of November 15, 1948, dropped 0.8 percent compared to the previous month, but was still 2.2 percent higher than November 1947. The retail fresh, frozen, and canned fish index continued to climb, and on November 15, 1948, reached a peak of 328.1 percent, 0.7 percent higher than mid-October, 1948, and 8.5 percent higher than November 15, 1947. The increase in November was mainly due to the continued increase in prices of canned fish. Canned pink salmon at retail, on November 15, 1948, was 3.2 percent higher than the previous month and 20.9 percent higher than on November 15, 1947.

