

UNITED STATES DEPARTMENT OF THE INTERIOR

Stewart L. Udall, *Secretary*

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FISH AND WILDLIFE SERVICE, Clarence F. Pautzke, *Commissioner*

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**BUREAU OF COMMERCIAL FISHERIES  
BRANCHES OF ECONOMICS, TECHNOLOGY, AND  
THE BRANCH OF REPORTS AT SEATTLE**

by

F. Bruce Sanford, Kathryn L. Osterhaug,

and Helen E. Plastino

Bureau of Commercial Fisheries

Branch of Reports

Seattle, Wash.

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Pariser, E. R.

Nutrient potential of industrial fish. Presented at the Virginia Fishermen's Association Meeting, Old Point Comfort, Va., February 12.

History and present status of fish protein concentrate manufacture. Presented at the Meeting of the Scientific Advisory Group, National Academy of Sciences, Washington, D.C., May 3.

The fish protein concentrate program. Presented as a seminar lecture at the Esso Research Center, Linden, N.J., November 2.

The fish protein concentrate program. Presented as a seminar lecture at the Department of Food Science and Technology, University of California, Davis, Calif., November 4.

Pariser, E. R.--Continued

The fish protein concentrate program. Presented as a seminar lecture at the University of Washington, Seattle, Wash., November 6.

The fish protein concentrate program. Presented as a seminar lecture at the University of California, Berkeley, Calif., November 5.

Sidwell, Virginia D.

Improvement of the protein quality of various vegetable protein supplements with fish protein concentrate (fish flour). Presented at the 47th Annual Meeting of the Federation of American Societies for Experimental Biology, Atlantic City, N.J., April 19.

Improvement in the protein quality of various vegetable supplements with fish protein concentrate. Presented at the Conference on Fish Meal Protein, Bureau of Commercial Fisheries Technological Laboratory, College Park, Md., May 22.

Sidwell, Virginia D.

Improvement of protein quality with fish protein concentrate. Presented at Atlantic Fisheries Technological Conference, Fort Monroe, Va., October 21.

Smith, P., Jr.

Study of the interference of fats, carbohydrates, and salts in the amino acid analysis of fish meals, fish protein concentrates, and mixed animal feeds. Presented at the 145th American Chemical Society National Meeting, New York, N.Y., September 8-13.

Snyder, D. G.

Current fish meal and oil program of the Bureau of Commercial Fisheries. Presented at the Meeting of the Scientific Advisory Group, National Academy of Sciences, Washington, D.C., May 3.

#### Gloucester, Mass.

Carlson, Clarence J.

The present status of freezing food products with liquid nitrogen. Presented at the Eighth Annual Atlantic Fisheries Technological Conference, Fort Monroe, Va., October 22.

Carver, Joseph H.

Breeding determination for fish sticks and portions. Presented at the Eighth Annual Atlantic Fisheries Technological Conference, Fort Monroe, Va., October 22.

Lane, J. Perry.

NASPO fishery specification program. Presented at the Eighteenth Annual Meeting of the National Association of State Purchasing Officials, Miami Beach, Fla., November 13.

Mendelsohn, Joseph M.

Detection of carbonyl compounds in clam meats. Presented at the Eighth Annual Atlantic Fisheries Technological Conference, Fort Monroe, Va., October 21.

Peters, John A.

Maintaining quality in fishery products. Presented at School of Hotel Administration, Cornell University, Ithaca, N.Y., April 22.

Handling fresh and frozen fish. Presented at a course for meat cutters, Springfield, Mass., November 5.

Improved profits through quality improvement at sea and ashore. Presented at meeting of Gloucester fishermen in City Hall, Gloucester, Mass., December 26.

Ronsivalli, Louis J.

Irradiation pasteurization of finnanhaddie and kippered herring. Presented at the Eighteenth Annual Meeting of the National Fisheries Institute before the Smoked and Cured Fish Committee, Philadelphia, Pa., April 26.

The radiation research program at the Gloucester Technological Laboratory. Presented at the Eighteenth Annual Meeting of the National Fisheries Institute before the Fresh Fish Committee, Philadelphia, Pa., April 26.

Research at the Gloucester Technological Laboratory with emphasis on radiation. Presented at the Gloucester Businessmen's Association, Gloucester, Mass., October 14.

The radiation preservation of fishery products. Presented at the Annual California Seafood Conference, San Diego, Calif., October 19.

Preservation of fishery products by ionizing radiation. Presented at the Eighth Annual Atlantic Fisheries Technological Conference, Fort Monroe, Va., October 21.

Applied radiation research at the Gloucester Technological Laboratory. Presented at a joint meeting of the AIBS Advisory Committee and AEC Contractors on Radiation Preservation of Food, Washington, D.C., October 24.

Rosivalli, Louis J.--Continued

Fundamental radiation research at the Gloucester Technological Laboratory. Presented at a joint meeting of the AIBS Advisory Committee and AEC Contractors on Radiation Preservation of Food, Washington, D.C., October 24.

Slavin, Joseph W.

Preservation of fish ashore and at sea. Presented at Regional Shellfish Sanitation Conference, Public Health Service, Boston, Mass., February 6-7.

Principles of fish preservation and their application to fish protein concentrate. Presented at the Annual Pacific Fisheries Technologists Meeting, Portland, Oreg., March 25-27.

Survey of quality changes in frozen fishery products. Presented at Annual Pacific Fisheries Technologists Meeting, Portland, Oreg., March 25-27.

Quality of frozen fish fillets sampled at the retail level. Presented at NFI Convention, Philadelphia, Pa., April 26-30.

Survey of temperatures in distribution of frozen fishery products. Presented at NFI Convention, Philadelphia, Pa., April 26-30.

#### Pascagoula, Miss.

Thompson, Mary H.

The debreading of breaded shrimp. Presented at the Atlantic Fisheries Technological Conference, Old Point Comfort, Va., October 22.

#### Seattle, Wash.

Dassow, John A.

Feasibility of pasteurizing fresh Pacific oysters. Presented at the Pacific Coast Oyster Growers' Association, Vancouver, B.C., August 23.

Developments in irradiation pasteurization of fishery products. Presented at Pacific Northwest and Alaska Field Committees' Joint Meeting, Seattle, Wash., November 12.

Outline of three phases of halibut quality and standards research. Presented at Industry Conference on Halibut Quality Research, Regional Office, Seattle, Wash., November 19.

Eklund, Melvin W.

Botulism. Presented at Regional Staff Meeting, Seattle, Wash., December 17.

Gauglitz, Erich J., Jr.

Refinement of fish oils. Presented at American Chemical Society Meeting, Bellingham, Wash., March 28.

Gruger, Edward H., Jr.

Research on reactions of fish oil fatty acids at Seattle Technological Laboratory. Presented at Bureau Fish Oil Conference, Washington, D.C., May 23.

Research on refinement of fish oils at Seattle Technological Laboratory. Presented at Bureau Fish Oil Conference, Washington, D.C., May 23.

Houle, Clifford R.

Problems in the thin-layer chromatography of complex lipid mixtures. Presented at American Chemical Society Meeting, Bellingham, Wash., March 25.

Research on nitrogen derivatives from fatty acids and alcohols at Seattle Technological Laboratory. Presented at Bureau Fish Oil Conference, Washington, D.C., May 23.

Fractionation of complex lipid mixture into groups of uniform degree of unsaturation. Presented at American Oil Chemists' Society Meeting, Minneapolis, Minn., October 1.

Jellinek, Gisela.

Application of sensory analysis to fresh marine fish. Presented at Pacific Fisheries Technologists Meeting, Portland, Oreg., March 2.

Perfumes and fish. Presented at Institute of Food Technologists Meeting, Tacoma, Wash., March 22.

Organoleptic methods for definition of odor components in fish oils. Presented at Bureau Fish Oil Conference, Washington, D.C., May 23.

Karrick, Neva L.

Role of fish oil in quality of fish. Presented at Pacific Fisheries Technologists Meeting, Portland, Oreg., March 25.

Malins, Donald C.

The reaction of acetyl nitrate with fatty alcohols. A synthesis of alkyl nitrates and nitrate esters. Presented at American Oil Chemists Meeting, Atlanta, Ga., April 22.

Analysis of fatty alcohols as nitrates by TLC and infrared spectroscopy. Presented at American Oil Chemists Meeting, Minneapolis, Minn., October 2.

Malins, Donald C., and John C. Wekell.  
Thin-layer chromatography: A tool for the educator. Presented at 18th Annual Northwest Regional Meeting of American Chemical Society, Bellingham, Wash., June 17.

Miyauchi, David T.  
The radiation preservation of fish program on the Pacific coast. Presented at Atlantic Fisheries Technologists Meeting, Old Point Comfort, Va., October 21.

Summary of accomplishments on "Radiation-pasteurization of Pacific crab and flounder." Presented at American Institute of Biological Sciences Advisory Committee to the Atomic Energy Commission Meeting, Washington, D.C., October 21.

Nelson, Richard W.  
Current research on techniques of fish preservation. Presented at Dietitians Meeting, Swedish Hospital, Seattle, Wash., January 9.

Nelson, Richard W., and Harold Barnett.  
The antioxidant effect of EMQ on frozen salmon flesh. Presented at 44th Annual Meeting of the Pacific Division of the American Association for the Advancement of Science at Palo Alto, Calif., June 17.

Spinelli, John.  
The utilization of ionizing radiations for the preservation of food. Presented at National Fisheries Institute luncheon, Seattle, Wash., March 21.

Relation of total volatile base, trimethylamine, and bacterial counts to sensory evaluation in irradiated king crab meat. Presented at International Fisheries Technologists' National Meeting, Detroit Mich., May 27.

Chemistry of sample preparation and ashing. Presented at Radiation Biology Summer Institute, University of Washington, Seattle, Wash., July 23 and 31.

Stansby, Maurice E.  
Future industrial utilization of menhaden oil. Presented at Virginia Fishermen's

Association Meeting, Old Point Comfort, Va., February 11.

Fishy odors and flavors associated with fish. Presented at Meeting of Pacific Division of American Association for Advancement of Science, Stanford University, Palo Alto, Calif., March 29.

Wekell, John C.  
New developments in thin-layer chromatography. Presented at Chemistry Club Meeting, Seattle University, Seattle, Wash., October 28.

### Seattle (Contractors)

Peifer, James J.  
Influence of EFA-deficiency, EFA and marine oil supplements on the hypercholesteremia of rats. The effects of total unsaturation. Presented at American Oil Chemists' Society Meeting, Minneapolis, Minn., September 30.

The use of microchromatoplates for the quantitative TLC analyses of tissue phospholipids and neutral lipids. Presented at American Oil Chemists' Society Meeting, Minneapolis, Minn., October 1.

### Branch of Economics, Washington, D.C.

Murray, A.T.  
Economic outlook for the menhaden industry. Presented at the Annual Meeting of the Virginia Fishermen's Association, Old Point Comfort, Va., February 11.

Stolting, W. H.  
Evaluation of commercial and sport fisheries of the Atlantic coast. Presented at the Annual Meeting of the Atlantic States Marine Fisheries Commission, Boston, Mass., September 25.

### Branch of Technology, Washington, D.C.

Brooker, J. R.  
Sanitation maintenance in plants producing fishery products under U.S. Department of the Interior Inspection Program. Presented at the 16th Annual Session, Gulf and Caribbean Fisheries Institute, Miami, Fla., November 11-15.

## TRANSLATIONS

Ann Arbor, Mich.

Adam, M.

1960. New possibilities for intensifying the smoke-curing procedure. *Die Fleischwirtschaft*, Nr. 2/1960, p. 80-84. Translated January 1963 by Erna Marquart.

Seattle, Wash.

Fukushima, Masatoshi, and Katsujiro Shimokai.  
1960. Study on the reaction of higher fatty acid methyl esters with metallic sodium.

III. Preparation of higher  $\beta$ -keto-esters and higher ketones and their properties. *Journal of Japan Oil Chemists' Society*,

vol. 9, no. 11, p. 593-600. Translated May 1963 (T-S-19) by George Kudo.

Kitabayashi, Kuniji.

1954. Method of producing fish meal from squid. *Hokusuishi Geppō*. [Monthly Report of the Hokkaido Regional Fisheries Research Stations, Japan, vol. 11, no. 8 (August), p. 31-36.] Translated November 1963 (T-S-21) by George Kudo.

Pokorny, J.

The formation of complex compounds by the reaction of lipids with proteins. *Fette Seifen Anstrichmittel*, Bd. 65, nr. 4, p. 278-284. Translated August 1963 (T-S-20) by Maurice E. Stansby.

## NEWS RELEASES

Seattle, Wash.

Eklund, Melvin W.

Radiation pasteurization of king crab meat reduces bacterial population. *U.S. Fish and Wildlife Service, Commercial Fisheries Review*, vol. 25, no. 6 (June), p. 35. (NI-57.)

Gauglitz, Erich, J., Jr.

Molecular distillation aids research on polyunsaturates. *U.S. Fish and Wildlife Service, Commercial Fisheries Review*, vol. 25, no. 4 (April), p. 18. (NI-55.)

Gruger, Edward H., Jr.

Gas-liquid chromatography aids in identifying fatty acids. *U.S. Fish and Wildlife Service, Commercial Fisheries Review*, vol. 25, no. 8 (August), p. 22-23. (NI-58.)

Malins, Donald C.

Mono- and di-nitrates derivatives may have industrial uses. *U.S. Fish and Wildlife Service, Commercial Fisheries Review*, vol. 25, no. 6 (June), p. 24. (NI-56.)

Miyauchi, David T.

Joint irradiation studies on crab meat and other fish products under way in Seattle. *U.S. Fish and Wildlife Service, Commercial Fisheries Review*, vol. 25, no. 2 (February), p. 42. (NI-54.)

Nelson, Richard W.

Antioxidant tested to prevent rancidity in frozen salmon. *U.S. Fish and Wildlife Service, Commercial Fisheries Review*, vol. 25, no. 1 (January), p. 48-49. (NI-53.)

Olcott, Harold S.

Oxidation of fish oils. *U.S. Fish and Wildlife Service, Commercial Fisheries Review*, vol. 25, no. 2 (February), p. 39-40. (NI-50.)

Spinelli, John.

New method for determining phosphorus in fishery products. *U.S. Fish and Wildlife Service, Commercial Fisheries Review*, vol. 25, no. 2 (February), p. 24. (NI-51.)

New method of assessing fresh fish quality studied. *U.S. Fish and Wildlife Service, Commercial Fisheries Review*, vol. 25, no. 9 (September), p. 33. (NI-60.)

Stansby, Maurice E.

Flavor change indicated during oxidation of menhaden oil fractions. *U.S. Fish and Wildlife Service, Commercial Fisheries Review*, vol. 25, no. 9 (September), p. 25. (NI-59.)

Terao, Patricia S.

Conference on fish oil research. *U.S. Fish and Wildlife Service, Fishery Products Report S-88, Market New Service*, May 6. (NI-52.)

### Technical Advisory Unit

Dyer, John A.

Use of fish oil in highway construction investigated. *U.S. Fish and Wildlife Service, Commercial Fisheries Review*, vol. 25, no. 3 (March), p. 24.

More Federal specifications for use of fish oil in paints required. U.S. Fish and Wildlife Service, Commercial Fisheries Review, vol. 25, no. 4 (April), p. 19-20.

Winchester, Clarence F.

Uses of fish oil. Feedstuffs, vol. 35, no. 8 (February 16), p. 37, 40.

New uses for fish oil explored. U.S. Fish and Wildlife Service, Commercial Fisheries Review, vol. 25, no. 3 (March), p. 23-24.

Fish meal market trends in southeastern states surveyed. U.S. Fish and Wildlife Service, Commercial Fisheries Review, vol. 25, no. 4 (April), p. 19.

Corn-cottonseed rations for pigs improved. U.S. Fish and Wildlife Service, Commercial Fisheries Review, vol. 25, no. 6 (June), p. 24.

Winchester, Clarence F.--Continued

Use of fish meal and oil in cattle rations recommended. U.S. Fish and Wildlife Service, Commercial Fisheries Review, vol. 25, no. 7 (July), p. 42-43.

Tests for digestibility of fish meal proteins improved by lowering concentration of pepsin. U.S. Fish and Wildlife Service, Commercial Fisheries Review, vol. 25, no. 8 (August), p. 32.

Cost factor important in use of fish meal in poultry feed. U.S. Fish and Wildlife Service, Commercial Fisheries Review, vol. 25, no. 8 (August), p. 30-31.

Net protein values of fish meal determined without chemical analysis. U.S. Fish and Wildlife Service, Commercial Fisheries Review, vol. 25, no. 8 (August), p. 31-32.

Growth factor in fish meal and solubles still unidentified. U.S. Fish and Wildlife Service, Commercial Fisheries Review, vol. 25, no. 8 (August), p. 31.

Fish meal and oil use. Feedstuffs, vol. 35, no. 37, (September 7), p. 64, 67.

Fish meal is a reliable source of trace minerals. U.S. Fish and Wildlife Service, Commercial Fisheries Review, vol. 25, no. 9 (September), p. 31-32.

Observations on use of fish meal and oil in animal nutrition. U.S. Fish and Wildlife Service, Commercial Fisheries Review, vol. 25, no. 9 (September), p. 32-33.

Recent developments in use of fish meal in poultry and hog rations. U.S. Fish and Wildlife Service, Commercial Fisheries Review, vol. 25, no. 11 (November), p. 29-31.

## LETTERS TO EDITORS

Branch of Reports, Seattle, Wash.

Sanford, F. Bruce.

The use of "I." Science, vol. 142, no. 3599 (December 20), p. 1, 526.

## LETTERS TO INDUSTRY

College Park, Md.

Letter to members of the blue crab industry. Released February 8.

Letter to members of the blue crab industry. Released July 15.

Branch of Economics, Washington, D. C.

The Branch of Economics prepared a large number of replies to inquiries from industry,

other government agencies, and international organizations. Such topics as "Descriptions of Wage Payment Systems to Fishermen, Financial Aids Available to the Fishing Industry, Economic Conditions in Individual Segments of the Industry," and many other topics were covered. To the extent that information can be furnished, the Branch welcomes inquiries in its field of operations and will furnish such information to inquirers.

## SUPPLEMENT

Papers that were not listed in 1962.

### PUBLICATIONS

Clem, Joe.

Standard specifications for fish, fresh (chilled) and frozen. State of Illinois, Department of Finance, Purchases and Supplies Section, 6 p. (Revised November 1, 1962.)

Cohen, Edward H., and John A. Peters.

Storage of fish in refrigerated sea water. 1-Quality changes in ocean perc'n as determined by organoleptic and chemical analyses. U.S. Fish and Wildlife Service, Bureau of Commercial Fisheries, Fishery Industrial Research, vol. 2, no. 1, p. 41-47.

Gruger, Edward H., Jr.

Methods of separation of fatty acids from fish oils with emphasis on industrial applications. U.S. Fish and Wildlife Service, Bureau of Commercial Fisheries, Fishery Industrial Research, vol. 2, no. 1, p. 31-40.

Mendelsohn, Joseph M., and John A. Peters.

Quality changes in whiting stored in ice as indicated by organoleptic and objective tests. U.S. Fish and Wildlife Service, Bureau of Commercial Fisheries, Fishery Industrial Research, vol. 2, no. 1, p. 1-6.

Peters, John A., Joseph W. Slavin, and Arvey H. Linda.

Mechanically deicing and weighing ground-fish at the dock in New England. U.S. Fish and Wildlife Service, Bureau of Commercial Fisheries, Fishery Industrial Research, vol. 2, no. 1, p. 23-30.

Sabock, David K.

Producers' margins for food fish and shellfish. U.S. Fish and Wildlife Service, Circular 156, 30 p.

Sohn, Bernard I., and Maynard A. Steinberg.

Effect of cooking methods on the sodium content of halibut, haddock, and flounder. U.S. Fish and Wildlife Service, Bureau of Commercial Fisheries, Fishery Industrial Research, vol. 2, no. 1, p. 7-13.

Thurston, Claude E., and H. William Newman.

Proximate composition changes in sock-eye salmon (*Oncorhynchus nerka*) during spawning migration. U.S. Fish and Wildlife Service, Bureau of Commercial Fisheries, Fishery Industrial Research, vol. 2, no. 1, p. 15-22.

Waters, Melvin E., and D. J. Bond.

New-type multiple debreader. U.S. Fish and Wildlife Service, Bureau of Commercial Fisheries, Fishery Industrial Research, vol. 2, no. 1, p. 49-57.

### ADDRESSES

Ann Arbor, Mich.

Clem, Joe P.

Inspection and certification of fishery products. Presented at Fish Cookery Demonstration, University of Michigan, Ann Arbor, Mich., June 28.

Gnaedinger, R. H.

The determination of body density by air displacement and helium dilution and body

composition of swine. Presented at Annual Meeting of the American Society of Animal Science, Chicago, Ill., November 23-24, 1962.

Leong, Kam C., and David Miller.

Nutritional effects of fractionated fish oil esters for poultry. Presented at the Oil Research Contractor's Meeting, Seattle, Wash., September 28.

## NEWS RELEASES

### Technical Advisory Unit

Winchester, Clarence F.

Fish solubles stimulate growth of chicks. U.S. Fish and Wildlife Service, Commercial Fisheries Review, vol. 24, no. 10 (October), p. 22.

Menhaden oil--poultry fat mixtures in ration gives chicks best gain. Feedstuffs, vol. 34, no. 43 (October 27), p. 48.

Menhaden oil stimulates growth of chicks. U.S. Fish and Wildlife Service, Commer-

cial Fisheries Review, vol. 24, no. 10 (October), p. 22.

How much fish meal should broiler rations contain for best results? U.S. Fish and Wildlife Service, Commercial Fisheries Review, vol. 24, no. 12 (December), p. 44.

More fish meal and oil in animal feeds encouraged. U.S. Fish and Wildlife Service, Commercial Fisheries Review, vol. 24, no. 12 (December), p. 44-45.

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