



# FOREIGN

## International

### FOOD AND AGRICULTURE ORGANIZATION

**MEETING ON COSTS AND EARNINGS OF FISHING ENTERPRISES:** An international meeting on "Costs and Earnings of Fishing Enterprises" will be held in London, September 8-13, 1958. It was organized by the Food and Agriculture Organization of the U.N. (FAO), Rome, Italy. The 77 Member Governments of FAO have been invited to send experts to it.

"The meeting will focus attention on many questions of crucial interest to all sections of the world's fishing industries and to Governments," according to the Director of the Fisheries Division, FAO. "Governments everywhere are so involved in the maintenance and development of fishing industries that they are directly concerned with costs and earnings, as much so as the employers and employees in the industries. Subsidies, credit schemes, tax and duty concessions, port and shore facilities, insurance, price support, and marketing schemes are some examples of Government participation in the fishing industry.

"This interest, and the naturally keen interest of the fishing industry itself, to investigate costs and earnings has led to much work being done on the subject, especially in the countries possessing important and highly

developed fishing industries. But there has been little collaboration or exchange of ideas and information between the investigators, so they have not benefited from each other's work. The meeting in September will enable the experts on costs and earnings to exchange views and experiences and discuss the methods used to study the subject in various countries."

Experts from North America and North and Northwest Europe, where there is a background of experience of such investigations in government, industry, and economic research institutions, are expected to make the main contributions to the meeting, both in technical papers and in the discussions.

"We are convinced that the problems and difficulties encountered in the investigation of costs and earnings in the fishing industries are in themselves a hindrance to the rational development of fisheries," the Director said. "This meeting should do much to point the way in many countries towards finding the facts about costs and earnings and should help to make possible the planning of realistic programmes for the development of fisheries on a sound, economic basis."

### GENERAL AGREEMENT ON TARIFFS AND TRADE

**INTERSESSIONAL MEETING OF CONTRACTING NATIONS:** In a three-week meeting at Geneva that concluded May 2, the Intersessional Committee of the 37 GATT (General Agreement on Tariffs and Trade) contracting nations carried forward the work of bringing into harmony the trade arrangements of the European Economic Community--which is still in an early formative stage--and the GATT framework of international trade rules and tariff concessions. The Committee also urged the German Government to take further steps to eliminate quota restrictions on imports as that government was no longer entitled under GATT to maintain import restrictions for balance-of-payments reasons.

The Intersessional Committee also held consultations on the intensification of quantitative import restrictions which New Zealand had felt obliged to make because of its worsening foreign exchange situation. New Zealand gave assurances that import restrictions would be relaxed as soon as its financial position improved.

The United States Delegation to the meeting consisted of representatives from the Departments of State, Agriculture, Commerce, Interior, and Treasury.

**European Economic Community:** The Intersessional Committee reached general agreement that

the normal procedures of the GATT were adapted for consideration of trade questions relating to the European Economic Community Treaty. The representative of the Community undertook to refer the conclusions of the Intersessional Committee to the Council of Ministers of the EEC and to inform the Contracting Parties of the results, a U. S. Department of State news release of May 6 points out.

The problems raised by the association of overseas territories with the EEC were discussed in detail by the Intersessional Committee, which had before it a series of reports on specific commodities and a general report which had been prepared by a working party that met in February and March. These reports and the discussions that have been carried out constitute a substantial accomplishment by the Contracting Parties in their examination of the EEC Treaty. There was considerable support for the view that it would be most fruitful now to direct attention to specific practical problems, leaving aside for a time the questions arising out of differing legal interpretations of the GATT.

The Chairman of the United States Delegation reiterated the importance the United States attaches to the successful evolution of the European Economic Community. He also took cognizance of the desire of contracting parties, including the United States, to move forward as rapidly as possible.

in GATT consideration of the EEC Treaty. He noted, however, that firm judgments on some important issues were not practicable because the institutions of the Community were still in the process of organization and much depended on future decisions and actions to be taken by these institutions.

Commenting on the historic importance of the EEC Treaty, the United States representative noted the similarity of the objectives of the General

Agreement and those of the EEC Treaty in relation to the expansion of world trade. In particular, he expressed the view that these objectives would be furthered if the Community set its common external tariff as low as possible. The Community was also requested to make the tariff available as soon as possible, but not later than July 1, 1959, and to supply information to facilitate its study by contracting parties.

## INTERNATIONAL LABOR ORGANIZATION

### FISHERMEN LABOR PROBLEMS TO BE CONSIDERED AT CONFERENCE:

Approximately 80 nations were expected to have representation at the Conference of the International Labor Organization (ILO), that began on June 4, 1958, in Geneva, Switzerland. Among the problems up for consideration were to be three instruments pertaining to fishermen: (1) Minimum age for admission of fishermen to employment; (2) medical examinations for fishermen; (3) articles of agreement for fishermen employed on fishing vessels.

Other considerations of general world labor importance would be such subjects as hours of work, occupational health services, and conditions of employment for plantation workers. These additional subjects will have some relationship, naturally, to the problems pertaining specifically to fisheries.

The ILO is one of the United Nations specialized agencies. Since its origin dates back to the League of Nations, it is the oldest specialized agency dealing with world problems. Since the beginning of the organization, 107 conventions or treaties have been brought into effect.

Representation in the ILO is most unusual since it is the only organization which is of tripartite character. Each member government has two government delegates, one employer delegate, and one worker delegate. The government delegates speak for their government; employer and worker delegates are independent and may vote independently of their government's position. In the United States, the employer delegates and advisors are selected upon the recommendation to the Government by the U. S. Chamber of Commerce and National Association of Manufacturers. These organizations have requested Charles E. Jackson, General Manager, National Fisheries Institute, Inc., to advise the employer delegate on the fishing instrument questions, and the Government has approved the recommendation.

## NORTHWEST ATLANTIC FISHERIES COMMISSION

### U. S. S. R. ADHERES TO NORTHWEST ATLANTIC FISHERIES CONVENTION:

The Soviet Union has adhered to the Convention for the Northwest Atlantic Fisheries Convention and is now a member of the Commission. Presumably one or more Soviet representatives will attend the Commission's June meeting, according to the United States Fisheries and Wildlife Under Secretary of State.

## SCIENTISTS SHOW HOW TO CATCH MORE FISH

An increase of 25 to 50 percent in the catch of fish can be obtained with fewer boats and fishermen if certain regulations are observed, it is claimed by two young fishery scientists--one from the Fisheries Laboratory, Lowestoft, England, and the other from the Fisheries Division, Food and Agriculture Organization (FAO), Rome.

The commercial application of the prediction methods of these two young men may have a far-reaching, even revolutionary, effect on the fisheries and fishing industry of the world, an FAO news release points out.

The formulae are contained in a 530-page book, "On the Dynamics of Exploited Fish Populations," recently published by Her Majesty's Stationery Office, London, in which the authors set out the methodology of predicting the effects of fishing on fish populations. In doing so, they provide some startling examples of increased catches, savings in men and boats, and increase in profits, which are bound to follow specified regulations of mesh size of nets and reduced fishing effort.

After eight years of work, the authors arrived at formulae which can be used in predicting the effect of any regu-

lation on any fishery in the world, after taking into account such natural factors as the recruitment of fish, their growth, and death.

An example of how such calculations can be made is provided by the demersal fishery in the North Sea. Here, the authors calculate, the best results could be obtained by restricting to half or less the fishing effort made in the immediate prewar period (before 1939) and enforcing a 80- to 90-mm. (3.1- to 3.5-inch) mesh size for trawl nets. If such conditions were imposed, the authors estimate that the catch of demersal fish from the North Sea would increase by 25 percent, or perhaps, 50 percent. In addition, of course, the substantial reduction in fishing effort would result in a very big increase in profits.

The authors calculate that if the fishing effort in the North Sea was reduced to 85 percent of the pre-1939 level and the minimum size of the net mesh was 80 mm. (3.1 inches), the effect would be to increase the size and quality, and therefore, the value of the fish caught. At the present wholesale prices this might mean an increase of more

than US\$2.8 million a year. If similar regulations were enforced in the English west coast hake fishery, the effect would probably be an extra US\$1.4 million earned by the fishermen and vessel owners engaged in the industry. Put in another way, such regulations as these, based on the formulae of the authors, would result in an increase of about a third in the effectiveness of fishing effort as measured by the catch per unit of effort.

If the methods put forward in this book are proved commercially and are adopted throughout the world, the effect is likely to be revolutionary. It would mean, for instance, that in all the countries now seeking to develop their fisheries, a method could be applied to determine the optimum exploitation of those fisheries, providing certain data are supplied. If these data are not available, the authors show how the information required may be obtained; thus it has become possible to predict the yield of any fishery. This is an achievement of the greatest importance to the fishing industries throughout the world, and particularly to underdeveloped countries which are planning to develop their fisheries.



### Argentine Republic

TWO PLANTS PRODUCE FROZEN FISHERY PRODUCTS: Two plants in the Rawson Area produce frozen fishery products for sale elsewhere in Argentina and for export. The products frozen, to a considerable extent in newly-installed factories, consist principally of shrimp, fish (pejerrey), and octopi.



### Australia

FROZEN FILLETS IMPORTED FROM SHANGHAI: Quick-frozen fillets from Shanghai (Red China) were offered to the Australian fish trade for the first time in February 1958 by an Australian import firm. The fillets (boneless and skin-off) are reported to be attractively packed in 7-lb. blocks. The fillet blocks were sold at about 5.6 to 6.6 U. S. cents under other imported fish of comparable quality. The fillets offered for sale were yellow croaker (similar to English bream), pomfrets (flatfish), and jewfish.

The Australian importer returned from his second trip to Shanghai in February 1958 and reported that the fish blocks were processed by the China National Foodstuff Export Corporation on the Whampoo River, Shanghai. He stated that the processing plant from a hygienic standpoint was ahead of similar plants in many countries. All of the 1,500 employees of the Shanghai plant wore clean white overalls and a face mask. Visitors to the factory are required to change into a similar outfit.

The importer stated further that the fish-processing machinery had been installed by Danish technicians. These technicians also supervised the packing. The 7-lb. block was developed at the Australian importer's suggestion because the 30-lb. blocks or slabs imported from Japan were too big for the average Australian retailer (Fish Trades Review, February 1958).

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**JAPANESE PEARL-SHELL FISHERMEN BARRED FROM TERRITORIAL WATERS:** Following urgent representation in Canberra by a Western Australian Member of Parliament and the State Fisheries Minister, the Australian Government on April 16, 1958, signified its acceptance of the state view that Japanese pearl-shell fleets should not be allowed to operate in Western Australian waters during the coming season. This naturally gratified Western Australian pearl-shell producers, though it was announced simultaneously that no more than 50 Australian vessels will be licensed for this industry. Since World War II the pearl-shell industry has suffered from reduction in demand, as polyester plastics replaced low-quality pearl shell in button manufacture. Nevertheless, starting from scratch in 1947, procurement of pearl shell from the oyster beds off Broome on the north coast has steadily increased during the same period until it now earns more than a million United States dollars annually.

In 1957, for the first time, a Japanese pearl-shell fleet was permitted to operate off Broome, outside the three-mile limit but over the continental shelf which, Australia claims, defines her territorial waters. Although it cannot be proven that Japanese vessels exceeded their allotted catch of 100 tons, subsequent investigation of the beds gave rise to allegations of "ruthless" overfishing (United States Consul at Perth, April 29, 1958).



### Brazil

**JAPANESE-CONTROLLED FISHING COMPANY ANNOUNCES PLANS FOR 1958 WHALING SEASON:** The Japanese tuna fishing firm established in Pernambuco recently purchased a small Brazilian whaling company. It announced plans to capture 300 whales during the 1958 season. The catch is expected to yield 796 metric tons of oil, 1,350 tons of ground whale meat for animal food, 330 tons of whale meat for human consumption, and 500 tons of bone meal. The whale meat for human consumption is to be preserved by salting and drying. In the next five years the whaling firm expects to increase production about threefold, the United States Consul in Pernambuco states in a May 9, 1958, dispatch.



### British Honduras

**FISHERY PRODUCTS EXPORTS, 1957:** Exports of fishery products from British Honduras during 1957 totaled 375,744 pounds, valued at US\$134,541, as compared with exports for 1956 of 265,483 pounds, valued at US\$110,528.

The United States received 40,250 pounds (value US\$14,923) of whole spiny lobsters, 155,388 pounds (value US\$95,678) of spiny lobster tails, 25,151 pounds (US\$3,479) of fish (fresh, frozen, or live), 11,690 pounds (value US\$2,114) of conchs, 100 pounds of shrimp (value US\$50), and 514 pounds of shark skins (value US\$397). In 1956, exports to the United States consisted of 125,011 pounds (value US\$81,556) of spiny lobster tails, and 240 pounds (value US\$52) of whole spiny lobsters.

The quantity of fishery products shipped to the United States during 1957 amounted to 62.0 percent of the total poundage and 87.7 percent of the total value. In 1956 exports to the United States made up 47.2 percent of the volume and 81.0 percent of the value, according to an April 30, 1958, report from the American Consulate, Belize, British Honduras. Exports of spiny lobster tails to the United States in 1957 increased 24.3 percent over 1956 and were 94.5 percent above the 1955 exports.

FISHERIES TRENDS IN 1957: Although the total value of exports was up in 1957, prospects for the British Honduras fishing industry are not good. The most serious problem is that existing fisheries are being exhausted, nothing is being done to develop others, and fishing as a vocation is dying out as the old men fail to be replaced by the young who prefer a different life. Fishing here is still done almost exclusively by the centuries-old method of the one-, two- or three-man dugout canoe or sailboat operating with crude lobster pots, hand lines, and occasionally with small nets. It has been proposed that a fisheries school be operated and that a sufficient monopoly be granted to warrant the introduction of the capital required for modern fishery methods and equipment. However, two small companies have been granted concessions and both are finding it difficult to operate. The only forward-looking plan--and it is still just a plan--is to conduct a far-reaching survey of potentialities.

There is a small export of salted and dried fish to neighboring countries, but this is declining rapidly for a variety of reasons: (1) the lesser number of fishermen, (2) consumer tastes, and (3) protective import duties. The principal exports are of frozen spiny lobster tails; frozen whole spiny lobsters are of lesser importance in value. The export of frozen fish almost doubled in 1957. But expectations of a considerable industry exporting fish--as distinct from spiny lobster--have not materialized. It appears that British Honduras simply cannot compete in the United States market.

Shrimp fishing is negligible to date. Apparently there are few shrimp to be had.



## Canada

LIQUID MEASURE FOR SHUCKED OYSTERS PERMITTED: A January 31, 1958, directive of the Canadian Government requiring that all containers of imported shucked shellfish meats must be labeled with the net weight has been reconsidered. Due to protests from the seafood packers in the United States, Canadian labeling requirements have been amended to permit containers of shucked oysters shipped from the United States to be marked with the "Imperial Liquid Measure." It is still necessary to have the name and address of the packer on the container showing that the product came from the United States. The requirements promulgated by the January 31, 1958, directive are as follows:

- (1) Master cartons, shipping containers, barrels, etc. shall be correctly and legibly marked or labeled with the name and address of the packer or the license number of the packer.
- (2) The container must bear the name of the country of origin. The words "Product of --" are not essential. The country of origin must be evident from the name and address of the packer.
- (3) The wrapper or label of the package must bear the name and address of the packer or the license number of the packer. The label must bear the name of the country of origin.

- (4) Containers of shucked shellfish meat must be labeled in terms of net weight.

This change in the Canadian Government labeling regulations permitting the liquid-measure designation brings their requirements as to designation of weight into line with those of the U. S. Food and Drug Administration and other agencies in the United States that control weights and measures.



## Denmark

FISH MEAL PRODUCTION UP 17 PERCENT IN 1957: During 1957 the available Danish supplies of fish meal totaled 66,000 metric tons, or practically the same quantity as during the preceding year. The domestic production increased from 47,000 tons in 1956 to 55,000 tons in 1957. This increase was, however, offset by a drop in imports of 8,000 tons.

The larger Danish output of fish meal was a result of increased catches of herring and launce or sand eel. Launce has been subject to intensive fishing during recent years as it has proved valuable in the production of fish meal and oil because it is found in rather ample quantities in the North Sea.

The exports of fish meal increased from 40,000 tons in 1956 to 42,000 tons in 1957, while the domestic consumption remained unchanged at 21,000 tons.

The major export outlets for Danish fish meal were the United Kingdom (22,700 tons) and Holland (14,200 tons). Compared to 1957, the exports to those two countries increased by 12,000 tons and declined by 5,800 tons, respectively. (United States Embassy, Copenhagen, dispatch dated May 14.)

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MARINE OIL PRODUCTION AND IMPORTS DECREASED IN 1957: During 1957 the available Danish supplies of marine oils (fish-liver oil, fish oil, whale and seal blubber oil, whale oil, and seal oil) totaled 37,334 metric tons, or approximately 2,200 tons less than in 1956 (see table 1). This was the net result of reduced imports and less domestic production.

Table 1 - Danish Supply and Distribution of Marine Oils, 1957 and 1956

Type	Opening Stocks January 1	SUPPLY			DISTRIBUTION			
		Production	Imports	Total Supply	Exports	Consumption	Ending Stocks December 31	Total Distribution
(Metric Tons)								
<b>1957:</b>								
Fish-liver oil . . . . .	n. a.	200	1,736	1,936	316	1,620	n.a.	1,936
Fish (incl. herring) oil . . . . .	706	13,200	2,603	16,509	8,593	5,618	2,298	16,509
Whale and seal blubber oil . . . . .	n.a.	1,000	-	1,000	-	1,000	n.a.	1,000
Whale oil . . . . .	7,606	n.a.	10,263	17,869	105	10,017	7,747	17,869
Seal oil . . . . .	n.a.	n.a.	20	20	14	6	n.a.	20
<b>Total . . . . .</b>	<b>8,312</b>	<b>14,400</b>	<b>14,622</b>	<b>37,334</b>	<b>9,028</b>	<b>18,261</b>	<b>10,045</b>	<b>37,334</b>
<b>1956:</b>								
Fish-liver oil . . . . .	n.a.	200	1,886	2,086	381	1,705	n.a.	2,086
Fish (incl. herring) oil . . . . .	684	14,048	1,606	16,338	8,179	7,453	706	16,338
Whale and seal blubber oil . . . . .	n.a.	900	-	900	-	900	n.a.	900
Whale oil . . . . .	5,299	n.a.	14,298	19,597	68	11,923	7,606	19,597
Seal oil . . . . .	n.a.	624	11	635	135	500	n.a.	635
<b>Total . . . . .</b>	<b>5,983</b>	<b>15,772</b>	<b>17,801</b>	<b>39,556</b>	<b>8,763</b>	<b>22,481</b>	<b>8,312</b>	<b>39,556</b>

N.A. - NOT AVAILABLE.

The reduced imports were due primarily to smaller purchases of whale oil. The lower domestic production of marine oils was due to a smaller production of fish oil. This may seem a little unusual considering that production of fish meal increased notably. The explanation is, however, that certain types of fish used for reduction possess a lower oil content than those previously constituting the bulk of the industrial fish landings.

The principal marine oil imported during 1957 was whale oil, practically all (10,263 tons) of which came from Norway.

The exports of marine oils increased only a trifle during 1957 (9,028 tons) and were made up almost entirely of herring oil. The principal buyers were Sweden (5,263 tons), Norway (1,555 tons), and West Germany (1,484 tons).

may vary from the amount programmed when supplies fail to meet estimates as was the case for frozen herring in 1957. The agreement between Iceland and Poland may be automatically extended for another year unless one of the contracting parties declares it wishes to negotiate a new protocol. The exports of fishery products programmed for the year ending February 28, 1959, the programmed shipments for the previous year, and the actual shipments for this year are shown in table 1.



### Israel

**SHRIMP EXPORTS TO UNITED STATES:** Shrimp exports from Israel to the United States in 1958 will reach 15 metric tons, according to an announcement by the Director of the Department of Fisheries in the Israel Ministry of Agriculture. The 1957 trial shipment of 10 tons of shrimp reportedly brought about US\$2,000 a ton.

During 1958 Israel will also export 15 tons of cuttlefish to Western Europe. Fresh fish were shipped in 1957 on a trial basis to Cyprus at prices not lower than those in Israel.

In anticipation of a further increase in the export of frozen fish, the Israel Fishermen's Union is expected to purchase a second freezing plant with a processing capacity of three tons of fish every 24 hours. The new plant will be acquired in the United States at a cost of IL28,000 (US\$50,400), of which the Israel Ministry of Agriculture will grant the Union a loan of IL15,000 (US\$27,000). The new fish-freezing plant is to be located at the Kishon Harbor. At present the only other freezer plant operating in Israel is situated at the Haifa port, with a capacity of only one ton per 24 hours.



### Italy

**TWO CANNERIES CUSTOM PACK ALBACORE TUNA:** Two leading Italian canneries are custom packing canned albacore or white meat tuna for a large Italian firm, according to a letter received from Milan dated April 19, 1958. It is believed that most of this is imported Japanese albacore or fish landed at Italian ports directly by Japanese vessels.

This new venture is part of a plan the Italian firm has been putting into effect the past two years in order to engage in fishing and canning. The firm has a small fleet of tuna vessels operating in the Atlantic Ocean and bringing in tuna, mainly yellowfin, since this is the species most in demand on the Italian market.

All the fish is dressed and frozen on board the vessel.



### Japan

**CANNED FISH ACCOUNT FOR 60 PERCENT OF ALL CANNED PRODUCTS:** Canned fishery products account for 60 percent of the total output of Japanese canneries. The principal canned fish are tuna, crab meat, salmon, sardines, and saury. Canned fish products of lesser importance are scallops, small clams, Hokki clams, and canned smoked oysters. These products from the Japanese fish canneries are sold all over the world (Foreign Agriculture, issued by the U. S. Department of Agriculture, April 1958).

**DISCOVERY OF PACIFIC ALBACORE TUNA SPAWNING GROUNDS:** One of the great mysteries of nature has been the whereabouts of the Pacific spawning grounds of albacore--the choicest variety of tuna and a migratory surface-feeding type of fish found far from land.

Japanese fishery researchers now claim that the mystery has been solved. A fishing vessel operating along the equator somewhere west of the Gilbert Islands recently caught swordfish whose stomach contents included newly-spawned albacore. (Pacific Islands Monthly, April 1958.)

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**EXPORTS OF SELECTED FISHERY PRODUCTS TO THE UNITED STATES, 1957:** During 1957 exports of frozen tuna to the United States increased about 29.9 percent in quantity and 23.4 percent in value, as compared with 1956. Canned tuna exports in 1957 were down slightly in quantity and value from the previous year. Crab meat exports increased 22.0 percent in quantity and 22.1 percent in value. Other canned fishery products were up by 4.1 percent in quantity, but declined 3.3 percent in value in 1957 over the preceding year.

Product	Quantity		Value	
	1957	1956	1957	1956
	(Metric Tons)		.. (US\$1,000) ..	
Tuna, frozen . . . . .	51,629	39,754	15,098	12,235
Tuna, canned . . . . .	12,870	12,893	11,538	11,619
Crab meat, canned . .	2,829	2,319	6,219	5,095
Other canned . . . . .	16,370	15,729	13,524	13,981

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**FISHERY LANDINGS IN 1957 AT RECORD HIGH:** Japan's fisheries landings (excluding whales) and output of other marine products reached an all-time peak in 1957, according to the Japanese Ministry of Agriculture and Forestry. Japan's fisheries landings of 5,398,000 metric tons, which includes pelagic fishing, coastal and offshore fishing, shallow-water culture, and inland fishing and culture, was 13 percent higher than for 1956 and 10 percent higher than for the previous postwar peak attained in 1955.

The record 1957 output was attributed by the Ministry of Agriculture and Forestry to favorable migration of fish, improvements in fishing technique, and modernization of fishing equipment.

Domestic prices for fish in 1957 were about equal to those prevailing in 1956. The fishing industry therefore had a most successful year.

Whaling operations resulted in a catch of 16,018 whales (including sperm and baleen whales), an increase of 3,102 whales as compared with 1956 (the Antarctic whaling fleet was increased by one mothership operation in 1957), the United States Embassy in Tokyo reports.

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**STATEMENT ON FISHING IN COASTAL WATERS OF U. S. S. R.:** The position of the Japanese Government on the longstanding territorial issue with the Soviet Union was outlined in a statement by the Director of the Foreign Ministry's Public Information Bureau, March 24. Following is a translation of the statement as reported in Japan Report of April 20, 1958.

"On March 18, Soviet Deputy Foreign Minister N. T. Fedorenko delivered to Japanese Ambassador in Moscow, Suemitsu Kadowaki, the Soviet Government's reply to the Japanese request of February 28 concerning the question of fishing in coastal waters.

"In its reply, the Soviet Union repeated its past claim that it believed conditions were not yet suitable to discuss the question of fishing in coastal waters since the Japanese Government had not expressed readiness to conclude a peace treaty with the Soviet Union. At the same time, it stated that the territorial question had already been settled and that it could not consider any request of whatever nature from Japan.

"The Soviet claim that the territorial question was already settled has always been repeated by the Soviet Union ever since the Japanese-Soviet talks in London. However, it need not be pointed out at this stage that the territorial question between Japan and the Soviet Union is to be decided for the first time in a peace treaty.

"The disposition of Japanese territorial rights was stipulated for the first time in the San Francisco Peace Treaty. In this Treaty Japan relinquished its authority, title and right of demand to Southern Sakhalin and the Kurile Islands; but since the Soviet Union refused to sign the said Treaty, the territorial question between the two countries remains still unsettled.

"Talks for normalization of the Japanese-Soviet diplomatic relations, started in June 1955, failed to reach agreement on this question. Therefore, the two countries agreed to leave the question unsettled but restore diplomatic relations through the issuance of a joint Japanese-Soviet declaration. They decided to continue at a later date the negotiations on the conclusion of a peace treaty. The territorial question must thus



be included in the talks for the conclusion of a peace treaty, and Japan cannot agree to the Soviet Government's claim that the territorial question has already been settled.

"Japan is prepared to conclude a peace treaty at any time if the Soviet Union accepts Japan's just demand to hand over the two islands of Habomai and Shikotan, which are a part of Hokkaido, as well as the islands of Kunashiri and Etorofu, since both are the inherent territories of Japan.

"The Soviet Government in its latest reply has made clear its attitude that it regards the territorial question as having been settled and that it cannot agree with any indication that the Soviet Union is attempting unilaterally to force upon Japan its claim on the territorial question in connection with fishing in coastal waters. Needless to say, however, the return to Japan of its inherent territories is the united and fervent desire of the Japanese people, and this claim cannot be relinquished.

"Despite the opposing claims of both countries on the territorial question and the difficult position in which the conclusion of a peace treaty has been placed, Japan, in compliance with the spirit of the joint Japanese-Soviet declaration, has successively settled various pending problems between Japan and the Soviet Union and is pursuing a policy of furthering the friendly relations between the two countries. There will be no change in this policy in the future.

"Japan's request for talks on the question of fishing in coastal waters is based on this policy. Japan, therefore, renews its hope that the Soviet Union will also, from the standpoint of promoting friendly Japanese-Soviet ties, agree to talks on the question of fishing in coastal waters and, at the same time, strive for a satisfactory settlement of the problem."

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**VALUE OF FISHERY PRODUCTS EXPORTS, 1957:** Exports of fishery products by Japan in 1957 were valued at US\$122 million f. o. b. (exclusive of fish and marine mammal oils and aquatic products), according to figures compiled from customs data by the Japanese Ministry of Finance. Fishery products exports made up about 2.3 percent of the total value of US\$2,858 million for all exports.

The exports of fishery products in 1957 to the United States amounted to US\$55 million, or about 45.1 percent of the value for all fishery products. The United Kingdom was second in terms of value with a total of \$22 million and the Philippines was third with a value of US\$5 million. These three countries accounted for 67 percent of Japan's foreign trade in fishery products.

In addition to the above, Japan exported fish oils valued at US\$23 million, of which the United States share was US\$4 million. (United States Embassy report from Tokyo, dated April 24, 1958.)

JAPANESE GOVERNMENT



## Mexico

**LONG-LINER LANDS TUNA TRIP AT GULF PORT:** The single Mexican tuna long-liner fishing in the Gulf of Mexico out of Veracruz returned to port in May with 6.2 metric tons of yellowfin tuna after a five-day trip (4 days of fishing). This was a particularly successful voyage since an average of 20 tuna per 100 hooks was maintained.

The vessel, La Jarocha, is a converted purse seiner about 62 feet long equipped with a Japanese line-hauler, but with no refrigeration. The master fisherman is an experienced Japanese fisherman. The boat fishes 10 baskets of 30 hooks each. Upon capture the fish were gutted and iced-down in the hold. The fish were delivered to the Veracruz cannery that owns the vessel.

At present only tuna are landed, but officials of the recently-formed Marine Biological Station of the Veracruz Technological Institute have become interested in the project and expect to find a market for the many sharks that are caught. An attempt is also being made to develop a market in Mexico City for fresh yellowfin. It is claimed that beheaded and gutted yellowfin can be delivered to wholesalers in Mexico City at about 18 and 25 U. S. cents a pound, which would place it in the upper-middle-class price range for fresh fish, the United States Embassy in Mexico City reported in a May 21, 1958, dispatch.



## Morocco

### FISHING AND CANNING TRENDS, FIRST QUARTER 1958: Canned Sardines:

The current fishing and canning season in Morocco has been among the best for several years, as fish supplies were plentiful and of fine quality. France purchased the whole of its import quota of Moroccan canned sardines free of duty to help keep local prices down. This official quota was 12,000 metric tons, or 600,000 cases of 100 cans each. As the French catch was short, France accepted an additional 60,000 tons at normal duty.

From June 1, 1957 (beginning of the fishing season) to December 31, 1957, the pack of canned sardines was estimated at 2 million cases. During the same period, 1.2 million cases were exported. Thus, a serious surplus has developed and markets for it are now being sought, principally through the use of trade agreements.

Fish: Morocco produces large quantities of fish, but consumes only 3.3 pounds of fish a year per capita, whereas the average consumption in Europe is 15 times as much. To promote increased local consumption of fresh fish, a national committee decided to start a campaign of price control, to organize fish packing, refrigeration, transportation, and sanitary control, as well as appropriate advertising. Also, to permit continued fresh fish exports to Algeria at competitive prices, Moroccan exporters obtained in February the suppression of the Algerian import quota.



## New Hebrides

TUNA FREEZING PLANT IN OPERATION: The new tuna freezing plant (received its first fish in October 1957) located on the island of Espiritu Santo, New Hebrides, has a freezing capacity of 32 tons of tuna a day, storage space for 500 tons, a brine- and smoke-curing plant, an ice-making capacity of 20 tons daily, an ice storage space of 200 tons, and ample docking facilities. More storage space for an additional 200 tons is planned.

Two Japanese tuna fishing vessels have been landing their catches at the new plant. Landings from the first few trips have been very good and prospects are good for the future. Catches have been made up of 60 percent albacore tuna, 10 percent yellowfin tuna, and 30 percent marlin, sailfish, and other fish, the United States Consulate at Noumea, New Caledonia, reported on May 8, 1958.



## Norway

COD FISHERIES TRENDS THROUGH MAY 3, 1958: During the week ending May 3, 1958, in Finnmark, Lofoten, weather conditions were mostly good and landings of young cod continued to increase. The total landings of young cod in 1958 through May 3 amounted to 38,582 metric tons as compared with 22,143 tons and 17,363 tons, respectively, for the corresponding periods in 1957 and 1956.

Total Norwegian landings of young cod and spawning cod amounted to 106,348 tons as of May 3, compared with 80,129 tons last year and 123,742 tons in 1956 for comparable periods. Of this year's landings, 60,113 tons were sold for drying, 29,440 tons for curing, and 16,795 tons for fresh purposes.

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**U.S.S.R. OFFERS TO INCREASE HERRING PURCHASES:**

Although Icelandic herring makes up a relatively small proportion of Norway's total herring catch, it is of considerable economic importance, according to a May 19 dispatch from the United States Embassy in Oslo. It is fished off the coast of Iceland by Norwegian vessels which leave Norway at the end of June.

The Iceland herring, the most desirable of all herring species, is used entirely for human consumption, since it is too valuable to be processed into oil and meal. When the Norwegian fleet leaves for the Iceland fishing grounds, it takes with it the barrels and necessary salt and spices for preparation and packing of the herring on board. The catch of Iceland herring fluctuates widely from year to year. A normal catch for a season is about 200,000 barrels; however, the fishing boats will sometimes take about 250,000-270,000 barrels in the event of a particularly rich haul.

The United States and Sweden have traditionally been the principal purchasers of Iceland herring, and the amounts sold to these markets do not vary much from

year to year. The U.S.S.R. represents a new element in the market. Sweden usually contracts for the herring before the fleet leaves while United States purchases take place after the fleet returns. In the past, the Soviets have not purchased in advance and have, in a sense, been taking what is left after Swedish and United States purchases. The Russian share of Iceland herring has not been large, but after a rich haul, the Norwegians have always had the possibility of selling the surplus to the Russians.

The Russians have recently expressed a desire to increase their share of Iceland herring and have offered to make firm long-term contracts to purchase as much as 100,000 barrels annually. Due to this, the Norwegian fishing interests are faced with a quandary. If the season is a particularly good one there will be enough herring to satisfy the Russian contracts and the traditional markets in the United States and Sweden, but if Norway must first fill Russian contracts, not enough herring will be left (in the event of a disappointing season) to cover the traditional markets.



## Panama

**NEW FISH MEAL PLANT IN OPERATION:** The largest shrimp fishing and processing firm in Panama has completed and is now operating a new fish meal plant on Taboga Island.

In 1956 the company initiated a building program designed to transfer eventually all operations from its present site on the Gulf of Panama in a suburban residential district of Panama City to the Island of Taboga. The 12-hour, 18-foot tide of the Gulf of Panama and the limited space of its present location were the principal reasons for the move. The new site, on the southeast end of the Island, has a deep-water cove which will permit around-the-clock unloading and servicing of its boats. Substantial leveling and fill work has been carried out in preparation of the site. The program provides for the construction of expanded facilities for handling and freezing shrimp, docking facilities for up to 12 shrimp boats at a time, a marine yard with accompanying shops and storehouses, a 206-foot drydock, a small fish cannery, and the fish meal plant.

The first stage of the building program was the fish meal plant. Construction of the modern plant with the accompanying floating dock was completed in April 1957, at a cost of about US\$300,000. Used plant equipment purchased in the United States was supplemented by new equipment acquired abroad or constructed at plant site. Management of the plant was placed under an experienced German technician. Additional personnel presently consists of an American machinist in charge of the Diesel equipment, an Argentine national as assistant manager, and seven laborers.

Establishment of the fish meal plant makes possible the use of scrap fish caught by the Company's shrimp fleet and previously discarded as waste. Fish caught the last day out are left on deck, but if the boat is to be out for more than a day the fish are stored in the hold. The boat stops at Taboga on its way in from sea. Unloading at the fish meal plant may be done at low tide when it would not be possible for the trawler to reach the Company's dock in Panama City to discharge its shrimp catch. The fish are unloaded onto a screw conveyor mounted on the floating dock and are pumped with water through a pipe to the plant. Water and waste products and an occasional pelican are separated from the washed fish as they come out on the conveyor. The fish are weighed as they pass along the belt conveyor and are separated as to size on entering one of three concrete holding bins. The difference in cooking time necessitates separate handling of the large and the small fish. The fish are lifted from the bins by bucket conveyor to the steam sealer. They are carried by screw conveyor

through the steam sealer, the primary and secondary cookers, and into the press. Liquids extracted by the press, which include the oil and some solid residue, are channeled into a bin. Solids pass by screw conveyor into the primary grinders and continue by screw conveyor to the dryers. Blow dryers were selected because the meal cannot overheat with this process. The dried meal passes through a second grinder before moving on by screw conveyor to the sacking chute. Facilities are provided to permit meal considered too moist for fine grinding and sacking to be rechanneled through the dryers. The pulverized dried meal is placed in 100-pound burlap bags lined with tar paper and is permitted to cool before the bag is closed. These bags, which cost 40 U.S. cents each, are practically waterproof.

Presently, the oil and press liquors are lost in the liquid waste dumped into the sea. Pilot tests have shown the most efficient operation of the plant to be 9 to 10 tons of raw fish per hour. The footsreel press installed with the original equipment has an efficient operating capacity of no more than three tons per hour. This footsreel press is to be replaced by new equipment ordered from Germany with a capacity comparable to that of the other plant equipment, which will also clarify liquids, remove solids, and refine oil.

The fish meal recovery is about 20 percent of the raw fish weight. Recovery of solids from the press liquids will raise the percentage by 2 or 3 points. Oil content of the scrap fish is about one barrel (53 gallons) per ton of fish. The meal runs about 61 percent protein content and sells at US\$6.50 to US\$7.00 a 100-pound bag. About half of the plant's production is exported and half consumed in Panama, primarily in hog feeding.

Production of the plant is still very restricted by the lack of fish. Presently, production is limited to the scrap fish caught in the shrimp nets. The Company pays the boat crew \$10 a ton for the fish. The shrimp boats are bringing in from 2 to 6 tons each but the limited space on the trawler does not warrant saving these fish except on the last day or two of the trip. In order to increase the plant's fish supply, the Company has purchased five landing barges for use in picking up the day's catch of scrap fish from the shrimp boats at sea. Plans are to provide the plant with its own purse seiner fleet. The costly nets, however, make trained captains essential in the operation of a purse seine and experienced personnel is not available in Panama. The establishment of the initial fleet of purse seiners, therefore, is dependent on the import of experienced captains.

There are some 50 varieties of scrap fish of no commercial value found in the Gulf of Panama. The modern plant has the capacity to handle 240 tons of raw fish on a 24-hour-day

basis. Present operations carry the fish from the bin to the meal sack within 15 minutes. Adequate space has been provided in the plant layout for additional holding bins for raw fish and storage room for the hot sacked meal. Any additional plant labor needed is available on the Island. Special

feeding programs now being encouraged for improvement of the national livestock industry should increase local consumption of fish meal, the United States Embassy in Panama reports in a March 25, 1958, dispatch.



## Poland

**FISHERY MOTHERSHIP LAUNCHED FOR U. S. S. R.:** A fishery mothership built for the U. S. S. R. was launched in Poland on April 12, 1958, according to a Polish newspaper. It is reported to be the largest ship, in respect to dimensions, thus far built in Polish yards. The vessel will operate in the Arctic, and is reinforced against ice. It is described as being 157 meters (515 feet) long, 20 meters (65.6 feet) wide, and 9 meters (29.5 feet) in depth. Designed for handling the catches of 40 trawlers at sea and a crew of 263, it is equipped with five refrigeration compartments, a drying chamber, "enormous fuel tanks," and a helicopter.



## Spain

**BILBAO AREA FISHERIES TRENDS, MARCH 1957:** Fishing: Bilbao area fish wholesalers reported that while average catches were made in January and February 1958 by the trawling fleet on the high seas, smaller vessels operating close to the coast obtained poor results, because of the bad weather.

**Fishing in Dakar:** To fill in the gap of forced unemployment due to poor fishing in the Cantabrian waters during the month of November to February, a sizable portion of the fishing fleet of the provinces of Viscaya and Guipuzcoa has been seeking new fishing areas in the past few years. Efforts have been concentrated in the Dakar waters (off French West Africa) and in the Mediterranean.

During the 1956 winter season, 8 fishing vessels from Bilbao area ports fished for tuna in the region off Cabo Blanco, just north of Dakar. Operating about 60 days from the middle of November until the middle of January, the vessels caught 623 metric tons of tuna which sold for US\$95,238.

Encouraged by the good results obtained in 1956, 20 fishing vessels participated in this fishery in 1957, in the neighborhood of Dakar. Approximately 1,600 tons of tuna were caught and sold (headless) to canning factories in Las Palmas and Arrecife in the Canary Islands for about 7.7 U.S. cents a pound (US\$154 a short ton). While satisfied with their season's earnings, most of the returning fishermen expressed some disappointment in that they did not obtain the excellent catches made by the French vessels in the same waters. They pointed out that they were handi-

capped by the lack of adequate equipment and supplies, such as refrigeration and freezing units, nylon nets, fish detectors--all standard equipment of the French vessels.

**Cod Fishing:** After months of study and discussion an agreement was signed on March 6, 1958, in San Sebastian among Spanish, French, and Portuguese cod interests. The agreement is described as an attempt to find amicable solutions to certain basic problems, such as mutual aid to injured and sick fishermen, assistance in lifesaving, collision rights, etc., which result from the close-quarter methods of fishing traditionally employed by the fishermen of the three countries off the banks of Newfoundland, Labrador, Spitzbergen, and in the Barents Sea.

Early in March the Spanish cod fleet headed for the fishing banks off Newfoundland where it fishes until the end of October. Of the 100 ships of various tonnage, the largest were trawlers of 1,300 tons. The fleet carried a combined crew of 3,500 men. Annually about 80,000 metric tons of cod are caught which are valued at approximately US\$19 million. A round trip to Newfoundland requires about 30 days.

As usual, two sore problems will beset the fishermen. One concerns the lack of hospital facilities to take immediate care of sick or injured seamen. The other problem arises from the scarcity of water either for drinking or cooking. There will be a strict rationing of water among the seamen who will be away from their base port of operations in the French island of St. Pierre de Miquelon for over 70 days at a time.

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**VIGO FISHERIES TRENDS, JANUARY-MARCH 1958:** Fishing: Despite bad weather during March 1958, fish landings at Vigo, Spain, rose to 9.3 million pounds, valued at US\$973,000. Leading species were dollarfish or pomfret, *Brama raii* (3.4 million pounds), small hake (1.5 million pounds), and horse mackerel (1.3 million pounds). The landings represented an increase of 0.3 million pounds over the preceding month, but were below the March 1957 total by 1.4 million pounds.

Total landings for the first quarter of 1958 were 25.3 million pounds valued at US\$2,820,000. This was an increase of 363,492 pounds and US\$347,000 over the first quarter of 1957.

About 20 fishing boats (mostly "parejas") left for the fishing banks off Newfoundland during February and March. This was an increase of seven from this area due to the additions to the fleet, and the shift of some vessels from the southern tuna fishery.

The closed season on mollusks and crustaceans went into effect on April 1. It was reported that the shellfish season for January-March 1958 was poor and below the 1957 landings.

The sardine season began in March after a two-month closed season in the Northeast and Cantabrian regions. Fishing circles were optimistic that this year might see the end of the poor sardine catches which have plagued the in-

dustry since 1946. This optimism is based on the 1957 figures for sardine landings at the port of Vigo. Although official statistics put these landings at 16.2 million pounds, it is estimated that landings exceeded 22.0 million pounds.

The 1957 total catch of sardines was far from the 30,000-40,000 metric tons which were common in some past years. The same amount of effort applied to the sardine fishery in these good years, it is estimated, would have doubled or tripled the 1957 landings.

Fish Canning and Processing: Fish canners in the Vigo area bought 710,000 pounds of fresh fish in March bringing the total for the quarter to 1.1 million pounds, a drop of 209,000 pounds from the first quarter of 1957. Primary cause for the drop was the low catch in January when the industry could only purchase 7,100 pounds.

Fish bought for smoking and salting amounted to 192,817 pounds for January-March 1958, a drop from the 2.5 million pounds used for this purpose in the first quarter of 1957. This decline was due to increased shipments (3.5 million pounds) of fresh fish to interior markets where demand pushed up prices 10-15 percent over last year.

Supplies for Canning Industry: The supply of olive oil and tinplate remains, as in the past, inadequate to

NOTE: VALUES CONVERTED TO US\$ EQUIVALENT AT RATE OF 1 PESETA EQUALS US\$0.0238.

meet anticipated demand. Prices for olive oil have gone up to about 46.2 U.S. cents per quart, and there is talk of it going higher. The only relief the industry sees in sight is the soybean oil which the United States has recently agreed to ship to Spain. It is rumored that the Director General of Abastecimientos y Transportes made a quick trip to the United States in an effort to expedite the shipment.

Tinplate prospects for the year do not look bright. Of the 250,000 boxes needed by fish canners in Spain for a year's production, canners hope to get approximately half.

Imports of tinplate this year will be largely from England, as it was in 1957. Some tinplate will be imported from France under the Spanish-French accord of December 4, 1957.

Talk has died down of the new plant at Aviles installing cold rolling equipment for the production of tinplate but optimistically there are hopes that Altos Hornos de Vizcaya will start producing tinplate by the beginning of next year.

Tinplate prices are declining and the English have promised a slight cut, but German firms, until now too high priced for Spanish canners, are talking of cuts up to 15 percent.



## Taiwan

FROZEN TUNA SHIPPED TO UNITED STATES: In January 1958 the China Fisheries Corporation, a Taiwan Government Corporation, made a trial shipment of 28 metric tons of frozen tuna to Los Angeles.

The shipment was sold to a California firm at c.i.f. prices ranging from US\$310 for yellowfin to US\$330 for albacore, the former predominating.

China Fisheries Corporation operates 4 tuna long-liners and 21 otter trawlers, the latter procured from the United Nations Near East Relief Agency. The four long-liners were built in Taiwan and self-financed. The only International Corporation Administration aid financing received by the Company is NT\$4,820,000 (US\$237,000) under a refrigeration project, which is still under construction.

It is reported that the price obtained for this trial shipment at Formosa was about NT939 (US\$46) and NT412 (US\$20) under the local sales price for yellowfin and albacore, respectively.



## U. S. S. R.

INTERNATIONAL COOPERATIVE HERRING RESEARCH IN THE NORWEGIAN SEA PLANNED: The leader of Soviet fishery research recently stated that Soviet science is, among other things, working toward the development of scientific cooperation with Norway, Denmark, and Iceland for the development of a joint research project on herring grounds in the Norwegian Sea. A Soviet research vessel, Professor Mesjatsjev, will take part in the joint hydrological research in the Norwegian Sea, according to the May 14, 1958, issue of the Norwegian periodical Fiskaren.

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**TWO NEW-TYPE FACTORYSHIPS LAUNCHED:** Two large factoryships were recently launched at a shipyard in Leningrad. One of them, the Krasnogwardjeetz, is viewed as the prototype for a series of factoryships to be built and is an improved version of the factory-trawler Pushkin, which was the first of 25 large Soviet factory-trawlers built in Kiel, Germany. The new type of factoryship has a total length of 278 feet (246 feet between perpendiculars), a breadth of 46 feet, and a depth of 32 feet from the upper deck to the keel, and a tonnage of 3,712 tons. The vessel is already in operation according to the Norwegian periodical Fiskaren, May 14, 1958.



## United Kingdom

**19TH RUSSIAN TRAWLER LAUNCHED:** The 19th of the 20 trawlers ordered by Russia from a British ship-building firm was launched in early April 1958. These fishing vessels are almost 190 feet in over-all length and have a loaded displacement of 1,300 metric tons. They are also especially constructed to meet Arctic weather conditions (World Fishing, May 1958).

NOTE: ALSO SEE COMMERCIAL FISHERIES REVIEW, MAY 1958, P. 70; FEBRUARY 1958, P. 75; DECEMBER 1957, P. 71.

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**TEMPERATURE OF FISH AT ALL STAGES OF DISTRIBUTION CHAIN STUDIED:** The temperature of fish at all stages of the distribution chain, from unloading at the port to sale in the stores, was studied during the summers of 1956 and 1957 by scientists of the Humber Laboratory of the British Department of Scientific and Industrial Research. This was done partly as a result of requests from the fish trade itself in order to find out whether existing conditions needed improvement and, if so, how improvements could be brought about.

Altogether, nearly 30,000 temperatures of fresh fish were taken and a great deal of information collected of the treatment and temperature of fish at all stages in the distribution chain.

**On The Market:** Although the majority of the readings obtained of temperatures of fish at the time of unloading from distant-water vessels was in the region of the temperature of melting ice (32° F.), a significant proportion was above 34° F. In work previously carried out by the Department on commercial vessels, temperatures as high as 52° F. were recorded.

Since at 42° F. fish spoils roughly 2.5 times as rapidly as at 32° F., although these temperatures appear to be only slightly higher than that of melting ice, they could nevertheless with advantage be lower. Fish that has been stored for a week at 42° F. will be very stale, while if it is stored in ice at 32° F. it will still be quite fresh. Bad handling on the trawler can result in the landing of very poor or indifferent fish.

When this has been said, however, it must be admitted that temperatures on the trawler are much lower than anywhere else in the distribution chain.

As soon as the fish is unloaded into market containers and removed from the ice, it begins to warm up towards the temperature of the air. The speed with which it does this depends upon air temperature, where the fish is in the market container, whether it is in direct sunlight, and so on. It is hardly surprising that fish on the surface warms up rapidly--the highest temperature recorded on the market before filleting (61° F.) was probably obtained from a fish on the top of a container--but fish at the bottom warms up almost as rapidly.

**Filleting:** By the time the fish comes to be filleted it is already warm and in the case of the highest temperatures recorded the fish would have suffered the same

amount of deterioration as fish stored for 2.5 days in ice. Even the bulk of the readings indicate that the loss of "shelf life" may be somewhere in the region of 24 hours up to the time of filleting.

When the fish is filleted, there is a sharp rise in temperature for the bulk of the readings. The reason for this is that the temperature of the water in the filleting operation is considerably higher than that of the fish. The warmest fish, on the other hand, is cooled down.

**Boxing and Icing:** After the fish is iced down in boxes and put on rail it begins to cool down. It takes a considerable time to do this and in many cases it appears that not nearly enough ice is added even to cool the fish down, let alone to keep it cool. In the case of the warmest fish, the amount of ice added is only sufficient to bring the temperature down to 50° F. or so--a temperature at which fish is going bad roughly five times as fast as at 32° F. or, in other words, five hours at this temperature equals a day's storage at 32° F. in ice.

It is by no means easy to suggest any remedy. Nevertheless it is imperative that something should be done. Much of the fish comes from distant waters and its average age is perhaps 10 days at landing. If care is not taken, it can easily be very stale by the time it reaches the housewife 24 hours or so later.

**Icing Market Containers:** The first thing to do is to try to stop the fish from warming up when it is unloaded, but how is this to be done? Top-icing the market containers, as is done in Grimsby for North Sea fish in the summer, could be adopted, but would have much less effect on the fish in the tub-shaped Hull kit than it would in the flat Grimsby box, because the Grimsby box exposes a greater surface of fish to the ice. Also, top-icing would make it very difficult to look at the fish before and during the auction.

Perhaps the most realistic suggestion is that the merchant should make sure that fish is well iced as soon as possible after he has purchased it.

In this survey it was found that a significant proportion of fish could still be lying in market containers at 4 p.m., either on the market or in merchants' premises. By this means the highest temperatures would almost certainly be avoided, although more rapid spoilage due to the fish warming up would not be entirely prevented.

**Cooling the Fillets:** The rapid rise in temperature when the fish is filleted could to some extent be overcome by adding lumps of ice to the water in the filleting operation. It should be noted that such a procedure is most necessary in warm weather. A better alternative, however, would be to cool the fillets down in ice-cold water as soon as they are filleted and then to pack them down in plenty of ice.

**Add Enough Ice:** The present trade practice is to ice fillets down with a layer of ice on top of a 28-pound box and in a 70-pound box to put a layer of ice at the top and the bottom. Even if enough ice is added, and this is rarely the case, it takes many hours for the ice to cool down the fish at the center of the box. If the fillets started off their journey at the temperature of melting ice, however, and the box had a layer of ice at the top and bottom to stop heat warming them up again, there would be little fault to find with present practice.

In passing, it may be observed that the custom of packing fillets with ice at each end of the box is virtually useless. The bulk of the fish is quite uncooled by the ice in the course of a normal journey from port to store.

The same general considerations apply to fish sent away whole. Since whole fish are not processed, however, under commercial conditions they are almost always a few degrees colder than fillets prepared at the same time from similar fish. It is, nevertheless, just as important for whole fish to be iced adequately as it is for fillets.

**What is Adequate Icing?** Adequate icing is difficult to define closely, since the amount to be added will depend on air temperature, the temperature of the fish to be cooled, the conditions of transport, and so on. As a general guide, however, it may be said that 42 pounds of ice to 56 of fish would by no means be excessive in summer time.

If more ice is to be added, however, freight on the actual weight of fish transported will be increased, and thus must inevitably mean an increase in the cost of fish. Obviously there is need for discussion between the appropriate authorities in order to arrive at a reasonable and just solution to this problem since the existing conditions encourage the transport of fish with the minimum of ice. Much can still be done, however, by making sure that the fillets are as close to 32° F. at the time of pack-

ing as is reasonably possible, so that all the ice which is added is used to prevent heat leaking into the fish from outside and not to cool the fish down.

**At the Inland Market:** When fish arrives at the railway terminus from the port it has reached its lowest temperature and is about to start warming up again. It is common practice to unload the fish from the rail cars and allow it to stand until sale time some hours later. Under these conditions it does, of course, begin to warm up to air temperature, although if sufficient ice had been added at the port, which is rarely the case, this would not occur.

Even where there is no ice on fish reaching the inland wholesale market, it is unusual for more ice to be added at this stage.

Although it is true that if sufficient ice is added to fish at the port, there should still be sufficient at the inland market to last until it reaches the shop, there are occasions when, for various reasons, nearly all the ice has melted and it therefore should be one of the duties of the inland wholesale merchant to inspect the fish passing through his hands and to re-ice where necessary.

**In the Stores:** The fish retailer inherits neglect at any of the previous stages in the distribution chain, and it is therefore all the more essential for him to inspect fish as soon as it arrives in his store and add ice where necessary.

When he puts his fish on display he is spreading it out in a thin layer exposed to the warm air and it therefore warms up much more rapidly than at any other stage in the whole distribution chain. It is absolutely essential to keep the fish cool on display and the best way of doing this is to use ice. Refrigerated slabs are still not in general use and some of those which are in existence are little better than uncooled slabs. There is obviously scope for further improvements in design and operation of this type of equipment.

It is most important that fish retailers should have all their cooling equipment regularly inspected by a competent refrigeration engineer. (*Fish Trades Gazette*, April 26, 1958.)

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**TWO NEW FACTORYSHIPS SIMILAR TO "FAIRTRY:"** The British firm in Leith, Scotland, that owns the fish factoryship *Fairtry*, will add two similar vessels to its fleet. The second ship is due to be delivered in December and the third six months later.

After preliminary trials in a converted vessel, the *Fairtry* was launched 3-1/2 years ago. Russia, also operates a fleet of factoryships (moulded largely upon the plans of the *Fairtry* and her predecessor).

The new vessels, being built by a shipyard in Renfrew, Scotland, will be slightly shorter in length than the *Fairtry*, namely 235 feet between perpendiculars, compared with 245 feet. They are more compactly designed with an absolute minimum of waste space. Moulded breadth will be 48 feet and moulded depth 25 feet.

The vessels will be powered by Diesel electric engines, the three main generators providing current for the double armature propulsion motors of 2,000 s.h.p. at 130 r.p.m.

The freezing equipment will be much the same as that on the *Fairtry*. Three machines will handle 30 tons of fillets in 24 hours, with storage at 10° F. in the fish holds.

The fish meal plant will be of the continuous-process type instead of the batch type on the *Fairtry* and it is hoped that it will have a work capacity of 10 tons a day.

Four filleting machines are being installed and five plate freezers. Both Loran and Decca will be installed for navigational purposes and, in spite of the rapid advances in electronics, which sometimes seem to outdate equipment before it can be utilized, the new vessels will certainly be equipped with the finest range of equipment possible.

Accommodations are being provided for 96 people, including a certain number of specialists, in addition to the normal ship and factory crews.

When the *Fairtry* was first commissioned and the prospect of voyages of 2 to 3 months duration was discussed, it was thought by some that difficulty would arise in finding crews to remain at sea for such long periods of time. The firm, however, with its background of whaling experience and voyages lasting up to six months or more, proved that these pessimists were wrong.

In general, the crews have shown that they like the ship and the accommodations, comfort, and facilities provided, and the firm has had the best of support from the fishing section of the Transport and General Workers Union in finding crews, and negotiating conditions and pay.

The manning of the two new vessels is not therefore considered to be any real problem. A number of competent skippers and officers have already shown interest in them and the firm, in addition, hopes to be able to promote some of their own staff who are already experienced in operating the *Fairtry*.

The engineering personnel is somewhat more of a problem because of the diverse and highly technical nature of the machinery. Special training to selected personnel is being given as far as possible. The problem is to get the ordinary merchant marine engineer to interest himself in a fishing vessel, and on the other hand, for engineers used to ordinary trawlers to adapt themselves to the different types of equipment and method of operation.

Speaking in general terms on the experience of the *Fairtry* as to the hopes entertained for the new vessels, a

spokesman of the firm said that for the first year of the Fairtry's operation, the fishing was particularly good, and very satisfactory financial results were secured. For the past year, the fishing was not as good as formerly, and the firm was naturally concerned about it.

Nevertheless, it had been shown that profitable results could be obtained, even on the capital investment made in the Fairtry and contemplated in the new vessels. This was basically because the factoryship could remain fishing for such a long period and make sure of getting a catch before returning to port. The Fairtry cost, fully equipped, about £700,000 (almost US\$2.0 million), and the cost of each new vessel with equipment would be approximately £950,000 (US\$2.7 million). To safeguard the position of storing and marketing the increased output that would be attendant on the enlarged fleet, the firm was already taking steps in Hull and Grimsby to get increased cold-storage accommodations. At Hull, a warehouse which will hold nearly 2,000 tons of refrigerated fish is now being completed, and another to hold 3,000 tons was being provided in the new Grimsby development area.

Questioned about stern trawling, the firm's spokesman stated that the firm's experience showed it was the only satisfactory method for their purpose. They normally fish down to 250 fathoms with perfect safety and on occasions go down to 300 fathoms. Special safety devices have been installed to prevent accident in the case of snagging.

In connection with trawls, the firm has recently been experimenting with a new type of design aimed at getting a wider vertical mouth. With it they have secured good catches because the headline has been held at more than

twice the normal height above the footrope. This is in fact, the most promising development of recent date and they are pleased with the prospects of further improvement.

Another point made was that it had definitely been profitable to use the large-size mesh. The firm began using the maximum size of mesh now required, even before the regulations came into effect, because they had proved it was advantageous to avoid catching the small fish which could escape and grow into bigger fish.

The smallest average size of fish caught was approximately 16 inches in length. With the improved equipment, these were filleted in the round without gutting. That was a great saving of labor and it meant that now, with the recent improvements effected in their type of fish meal plant, all of the fish waste remained after filleting was processed for fish meal.

The only exception is large cod which are gutted for the livers. The oil in the livers of the small fish was squeezed out before the offal was converted to meal. The residue of the larger livers that were treated was also brought back to earn a further premium from shore factories for additional extraction.

"Thus the position is now achieved," concluded the firm's spokesman, "that the whole of the fish caught could be and is processed without any waste at all. The main product brought back--the sea-fresh filleted cod--has now established itself in selected markets as a special product and is beginning to command a deserved premium because of its quality." (The Fishing News, a British fishery periodical, dated March 14.)

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**WHITE FISH AUTHORITY ANNOUNCES FISH PUBLICITY CAMPAIGN FOR 1958/59:** Details have been announced of the forthcoming fish publicity campaign of the White Fish Authority for 1958/59. Advertisements will appear in 78 newspapers, including the three London evening papers. This will mean a total circulation of about 9.8 million in the provinces, Scotland, Wales, and Northern Ireland, and readership will be approximately 24 million.

In view of the fact that the British Trawlers' Federation will be advertising on a reduced scale this year, the Authority has increased the frequency of its insertions.

New store display material will again be available for both retailers and friers as part of the merchandising campaign. In view of the great success of the full color posters which the Authority produced last year, an attractive new set has been prepared. The Authority will continue to supply the trade with the popular laminated plastic price and name tickets.

During the last year the Authority has been building up a new service to the retailer--a sales advisory bulletin. Two editions have now reached the trade and in general have been well received.

The vital importance of increasing the sale of fish to hospitals, schools, industrial and other catering organizations, has long been recognized by the Authority, and this year they are intensifying their drive to obtain recognition for fish as a first-class food in all institutional cooking.

A booklet on the subject of fish for industrial catering is now in preparation, and this will be distributed to all those in the catering industry.

The utility companies are also being regularly supplied with information about choosing, preparing, and cooking fish.

During 1958 it is hoped that the Authority will be able to produce at least one film for showing to bulk users of fish.

In addition to advertising for the greater use of fish in school meals, the Authority believes that it is essential to interest children and young people in fish.

Several booklets are in preparation. The first of these is designed to interest younger school children and will describe simply, and with many illustrations, the history of Fish-From the Sea to the Table.

A second and more detailed book is being prepared and will be a complete and authoritative manual for grammar school teachers and such of their pupils as are interested in all aspects of the fish industry.

Last year the Authority carried on a very successful and amusing series of cookery competitions for men, which resulted in valuable publicity in the editorial columns of the Press in a number of cities throughout the country.

A variation of these is planned for the coming year and the flow of editorial publicity by the means of syndicated articles and recipes is to be maintained.

The authority sums up its campaign this year by saying that they will continue to focus attention on both the fish retailer and fish frier. They feel that increased expenditure on the educational promotion of fish will gain serious and welcome attention, from which every section of the industry will benefit, and which will, in turn, increase the sales of fish. (Fish Trades Gazette, April 26, 1958.)

