

# The Problems Of Quality And Food Hygiene Of Seafood Exported From Southeast Asia To Japan

MAKOTO YAMAGATA

*Marine Fisheries Research Department  
Southeast Asian Fisheries Development Center  
Singapore*

## Introduction

Imported marine products (seafood) into Japan in 1989 exceeded 2.3 million mt, of which fresh, chilled or frozen fish accounted for 1.8 million mt (78.3%). The remainder were live, salted, dried or smoked, prepared or preserved fish and other marine products.

Table 1 shows the volume and value of marine products imported from 1984 to 1989. Table 2 shows the imports of principal products from major countries in 1989. This huge volume (2.3 million mt) constitutes approximately 18.5% of the gross Japanese marine products. Incidentally export of frozen, marine products from Japan in 1989 was approximately 0.27 million mt.

Before addressing the problems of the quality and food hygiene of seafood exported from Southeast Asia to Japan, I would like first to describe the current procedures in Japan.

## Inspection Procedures For Imported Seafood

Fig. 1 shows the procedure for inspection of imported food used by the Ministry of Health and Welfare. (Note that the quarantine office is now part of the food sanitation inspector's office).

There are two forms of inspection: Governmental Inspection and Voluntary Inspection. Fifty-seven laboratories had been licenced as of 1989. The voluntary inspection laboratories issues examination certificates only to the applicant, who is a customs agent. The customs agent submits the examination certificate to the quarantine

office, which decides if the commodity passes, or whether it is in violation of the regulations.

## Inspection By The Ministry Of Health And Welfare (Government Inspection)

Food found requiring inspection will first undergo an on-the-spot inspection by a quarantine inspector.

During this on-the-spot inspection, an inspector goes into the designated bonded cold storage warehouse where the seafood is held, and inspects the following points, and then decides whether the seafood is passed or not.

- 1) Labelling
- 2) Organoleptic examination of color, brilliance, flavour, odour, texture, etc.
- 3) Inspection of adulteration due to foreign substances
- 4) Generation of mould
- 5) Condition of container-packages, etc.

If this on-the-spot inspection is inconclusive, the inspector can collect the seafood and transfer it to the quarantine office for further inspection. He can also send it to the National Institute of Hygiene Science for closer examination, if necessary.

When seafoods pass inspection, both the importer, and the customs office in charge of customs clearance are advised. At this point the importer may proceed to obtain customs clearance.

If seafood does not pass inspection, it is detained and a notification to that effect is sent to the importer who is requested to return or destroy

**Table 1. Imports of marine products into Japan, 1984-1989.**

Unit : Q = mt  
V = US\$1,000

Country	1984			1985			1986		
	Q	V	%	Q	V	%	Q	V	%
U.S.A.	275,068	678,275	15.33	351,889	915,015	18.52	391,453	1,151,144	16.86
S. KOREA	256,887	675,208	15.26	264,640	688,361	13.93	328,169	1,023,110	14.98
TAIWAN	92,764	503,379	11.37	106,944	578,462	11.71	146,615	947,449	13.87
THAILAND	41,626	162,026	3.66	49,985	181,689	3.68	69,115	304,330	4.46
CHINA	50,922	191,392	4.32	56,564	194,376	3.93	78,061	325,828	4.77
INDONESIA	32,951	236,324	5.34	36,221	226,212	4.58	41,697	312,446	4.58
CANADA	55,474	215,845	4.88	61,432	269,666	5.46	84,947	365,259	5.35
AUSTRALIA	18,142	176,841	4.00	19,736	198,812	4.02	19,631	219,160	3.21
U.S.S.R.	46,254	105,286	2.38	41,058	92,158	1.87	34,440	131,119	1.92
INDIA	42,213	254,771	5.76	41,150	232,668	4.71	42,458	282,262	4.13
PHILIPPINES	16,858	73,672	1.66	17,797	84,811	1.72	17,872	121,770	1.78
MAURITANIA	25,913	55,680	1.26	32,101	84,846	1.72	38,556	138,013	2.02
MOROCCO	37,434	85,015	1.92	38,660	97,262	1.97	41,048	134,156	1.96
SPAIN & CANARY	61,828	136,205	3.08	49,680	122,797	2.49	36,027	128,855	1.89
NORWAY	38,529	68,162	1.54	50,541	75,797	1.53	43,997	71,765	1.05
Other countries	300,459	807,321	18.24	358,901	897,867	18.17	454,434	1,172,970	17.17
Grand Total	1,393,322	4,425,402	100.00	1,577,299	4,940,799	100.00	1,868,520	6,829,636	100.00

Table 1. Imports of marine products into Japan, 1984-1989 (contd.).

Unit : Q = mt  
V = US\$1,000

Country	1987			1988			1989		
	Q	V	%	Q	V	%	Q	V	%
U.S.A.	457,927	1,561,436	18.39	542,069	2,197,480	20.10	465,997	1,893,987	17.96
S. KOREA	347,983	1,255,315	14.78	330,006	1,524,150	13.94	270,711	1,334,320	12.65
TAIWAN	170,848	1,209,780	14.25	139,984	1,058,638	9.68	127,599	990,926	9.39
THAILAND	80,375	394,664	4.65	107,495	609,908	5.58	129,282	750,713	7.12
CHINA	101,279	456,411	5.37	122,650	617,714	5.65	152,124	699,051	6.63
INDONESIA	52,871	370,504	4.36	66,624	517,118	4.73	86,480	578,932	5.49
CANADA	64,053	416,670	4.91	107,143	619,237	5.66	101,665	534,003	5.06
AUSTRALIA	22,075	288,238	3.39	22,793	345,801	3.16	21,654	371,457	3.52
U.S.S.R.	49,296	177,336	2.09	90,480	283,535	2.59	41,893	243,477	2.31
INDIA	43,416	299,751	3.53	36,539	277,132	2.53	37,334	232,324	2.20
PHILIPPINES	26,682	183,370	2.16	33,221	276,648	2.53	32,986	231,682	2.20
MAURITANIA	43,574	143,797	1.69	40,482	183,478	1.68	40,365	178,116	1.69
MOROCCO	32,038	108,211	1.27	37,219	176,880	1.62	39,340	177,719	1.68
SPAIN & CANARY	38,365	124,824	1.47	31,477	147,155	1.35	36,845	166,216	1.58
NORWAY	52,444	86,982	1.03	55,627	144,729	1.32	78,881	165,640	1.57
Other countries	492,042	1,414,588	16.66	650,359	1,954,456	17.88	625,075	1,999,296	18.95
Grand Total	2,075,268	8,491,877	100.00	2,414,168	10,934,059	100.00	2,288,231	10,547,860	100.00

Source: Japanese Imports of Marine Products (Statistics); Japan Marine Products Importers Association, Tokyo, Japan.

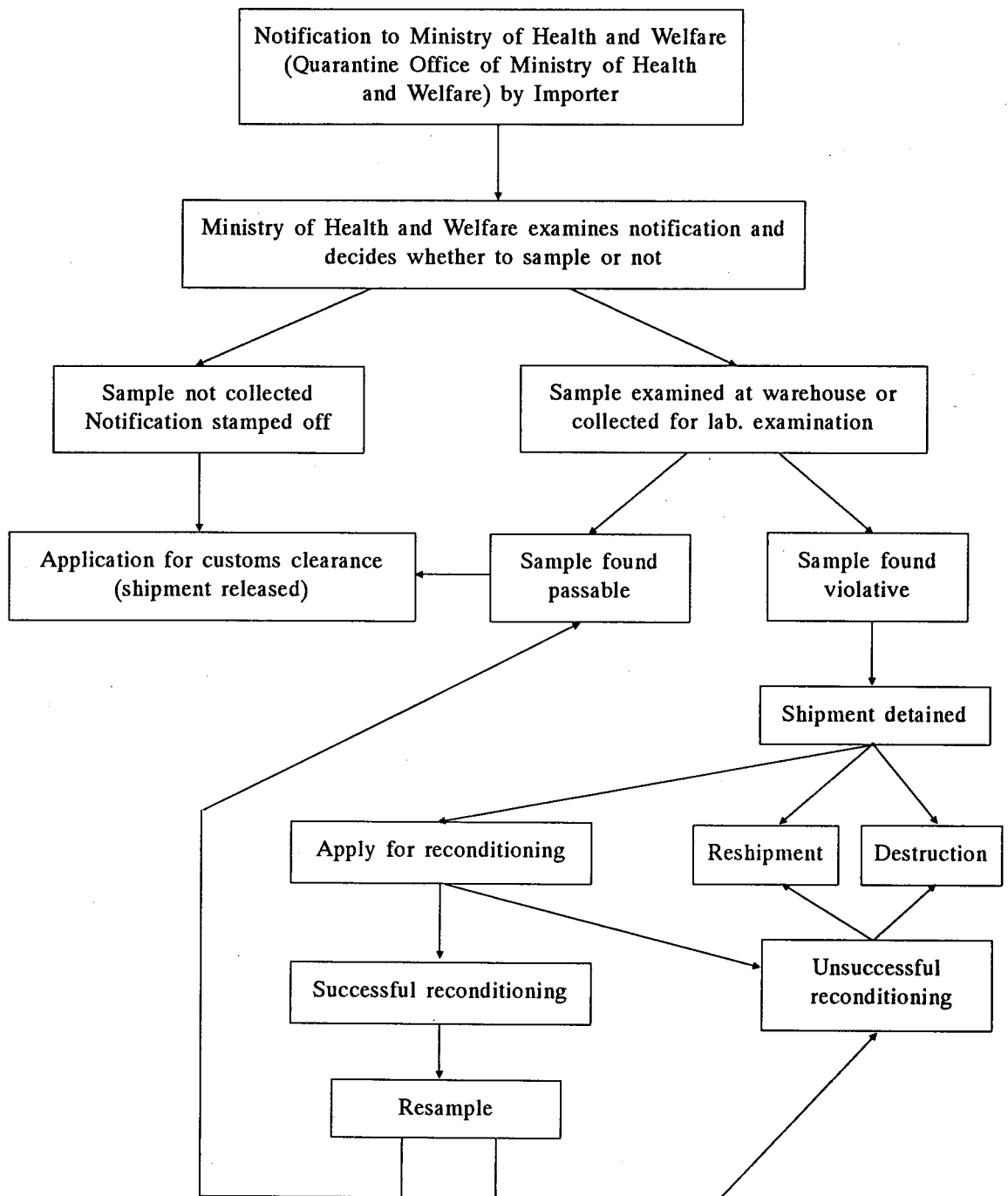


Fig. 1. Inspection procedure for imported foods.

Table 2. Imports of principal marine products by countries, 1989.

Shrimp, prawn, <i>ebi</i> : fresh, chilled or frozen				Albacore, yellowfin, bluefin, big-eye, other tuna, marlin : fillets, fresh, chilled or frozen				Crab : live, fresh,
Country	Q	V	%	Country	Q	V	%	Country
INDONESIA	50,086	444,624	19.5	S. KOREA	60,585	288,693	28.7	U.S.A.
THAILAND	38,785	389,584	17.1	TAIWAN	60,743	281,911	28.0	U.S.S.R.
CHINA	37,537	289,699	12.7	INDONESIA	24,572	85,496	8.5	CANADA
INDIA	29,701	192,759	8.5	U.S.A.	2,463	47,349	4.7	S. KOREA
PHILIPPINES	18,449	175,995	7.7	HONDURAS	8,241	39,657	3.9	CHINA
GREENLAND	16,215	130,966	5.8	PANAMA	6,730	29,135	2.9	N. KOREA
AUSTRALIA	8,572	120,416	5.3	SPAIN	2,625	25,137	2.5	TAIWAN
TAIWAN	8,925	84,922	3.7	MEXICO	18,033	24,436	2.4	U. K.
VIETNAM	15,938	62,420	2.7	SINGAPORE	6,200	23,070	2.3	AUSTRALIA
BANGLADESH	4,813	36,087	1.6	PHILIPPINES	6,136	22,801	2.3	VIETNAM
Total	224,309	2,227,139	100	Total	224,309	1,005,386	100	Total

Herring roe : fresh, chilled or frozen, salted, dried or smoked				<i>Mongo ika</i> , cuttle fish and squid : fresh, chilled or frozen				Octopus : fresh,
Country	Q	V	%	Country	Q	V	%	Country
CANADA	10,221	142,600	71.4	THAILAND	20,275	121,718	26.9	MAURITANIA
S. KOREA	1,081	13,757	6.9	MOROCCO	9,348	53,976	11.9	MOROCCO
IRELAND	1,805	13,466	6.7	SPAIN & CANARY	6,610	31,825	7.0	SPAIN & CANARY
U.S.A.	894	11,299	5.7	POLAND	13,406	26,709	5.9	GAMBIA
NETHERLANDS	1,617	11,025	5.5	S. KOREA	5,327	23,587	5.2	S. KOREA
POLAND	304	2,516	1.3	MAURITANIA	4,367	21,265	4.7	THAILAND
U.S.S.R.	262	2,394	1.2	GAMBIA	4,580	18,808	4.2	SENEGAL
U. K.	130	951	0.5	BULGARIA	10,360	16,880	3.7	CHILE
THAILAND	74	669	0.3	CHINA	3,004	14,052	3.1	CHINA
CHINA	21	339	0.2	MALAYSIA	2,465	11,851	2.6	PHILIPPINES
Total	16,515	199,671	100	Total	115,577	453,121	100	Total

Source: Japanese Imports of Marine Products (Statistics); Japan Marine Products Importers Association, Tokyo, Japan.

Unit : Q = mt, V = US\$1,000

chilled or frozen			Salmon and trout : fresh, chilled or frozen				Herring : fresh, chilled or frozen			
Q	V	%	Country	Q	V	%	Country	Q	V	%
29,630	257,940	52.4	U.S.A.	104,033	630,891	67.7	U.S.A.	31,286	56,409	74.7
5,854	80,262	16.3	CANADA	20,346	139,500	15.0	NORWAY	5,048	5,354	7.1
5,203	45,241	9.2	NORWAY	7,778	64,485	6.9	ICELAND	4,167	4,828	6.4
5,454	38,591	7.8	CHILE	4,411	30,473	3.3	U. K.	3,955	3,394	4.5
12,657	36,765	7.5	SWEDEN	3,118	20,867	2.2	NETHERLANDS	2,588	1,880	2.5
10,011	17,853	3.6	DENMARK	1,306	8,768	0.9	CANADA	1,682	1,511	2.0
2,753	9,796	2.0	FINLAND	957	6,590	0.7	U.S.S.R.	792	1,324	1.8
139	1,633	0.3	NEW ZEALAND	964	6,255	0.7	S. KOREA	268	467	0.6
164	740	0.2	U.S.S.R.	2,632	5,114	0.5	IRELAND	356	255	0.3
168	532	0.1	U. K.	469	4,310	0.5	DENMARK	47	55	0.1
73,211	492,431	100	Total	148,983	931,528	100	Total	50,253	75,537	100

chilled or frozen			Halibut, plaice, sole, flat fish : fresh, chilled or frozen				Cod, pollack, hake, surimi : fresh, chilled or frozen			
Q	V	%	Country	Q	V	%	Country	Q	V	%
32,987	150,001	33.3	U.S.A.	44,659	103,712	48.6	U.S.A.	126,693	222,255	85.4
27,750	114,589	25.4	S. KOREA	13,926	42,003	19.7	U.S.S.R.	10,885	17,812	6.8
22,131	92,784	20.6	ICELAND	14,008	26,983	12.6	S. KOREA	3,441	8,763	3.4
16,943	63,349	14.0	CHINA	1,896	11,839	5.5	CANADA	2,497	4,531	1.7
3,085	16,181	3.6	PORTUGAL	3,000	4,709	2.2	CHILE	1,398	2,543	1.0
6,401	7,200	1.6	N. KOREA	1,128	4,323	2.0	N. KOREA	1,560	1,997	0.8
1,648	4,792	1.1	SPAIN	2,351	2,623	1.2	ARGENTINA	1,560	1,953	0.8
182	490	0.1	NETHERLANDS	1,170	2,398	1.1	CHINA	138	256	0.1
170	398	0.1	HONG KONG	152	2,260	1.1	NEW ZEALAND	8	23	0.0
76	223	0.0	CANADA	623	1,781	0.8	PANAMA	6	15	0.0
111,680	450,921	100	Total	88,765	213,583	100	Total	148,187	260,149	100

the cargo ( or to take the necessary action while it is in bond).

At the same time, customs office in charge is notified that the said goods are in violation of the Food Sanitation Law and should not be imported into the country.

### Voluntary Inspection By Designated Laboratories

It is desirable that all related information as to the seafood concerned should be available and ready for inspection. After unloading of the cargo and during the period of storage at a bonded warehouse, it is occasionally necessary to prove whether the seafood conform with the Japanese Food Sanitation Law or not.

In such cases, responsibility for the necessary analysis and inspection by a licensed laboratory in Japan is undertaken by the importer, who is also responsible for the security of the seafood.

When it is deemed necessary, an administrative inspection is conducted by a government inspector.

An importer who regularly engages designated laboratories to inspect and certify his cargo gains the respect of food sanitation inspectors as

one who not only provides the information required, but also ensures safe seafood is released to the consumer.

### The Food Sanitation Law In Japan, Criteria Or Standard For Food And Food Additives

If you want to export seafood to Japan, it is necessary to know the Food Sanitation Law in Japan. The criteria or standards for food and food additives are shown in Table 3.

### The Problem Of Quality And Food Hygiene Of Seafood Exported From Southeast Asia To Japan

This is the main concern of this paper. Table 4 clearly shows the detentions or violations of imported seafood in 1989. We divided the data into two parts. Table 4-1 shows those of ASEAN Countries and Table 4-2 (1988) and 4-3 (1989) those of other countries.

Detentions or violations of imported food due to food sanitation inspections are decreasing from year to year as shown by Table 5. The decrease was due to improvements in quality and hygiene con-

Table 3-1. Standards and criteria of seafoods under the Food Sanitation Law, Japan.

Classification	Standards and Criteria	Remarks
Fish paste products (fish sausage & ham)	- Coliform organism : negative/g. - Nitrite radical : 0.05 g/kg or less.	There are also production & preservation standards.
Salted salmon roe	- Nitrite radical : 0.005 g/kg or less.	
Boiled octopus	- Viable bacteria count : $1.0 \times 10^5$ /g or less. - Coliform organism : negative/0.01 g.	Only frozen octopus. There are also processing & preservation standards.
Raw oyster for uncooked consumption	- Viable bacteria count : $5.0 \times 10^4$ /g or less. - <i>E. coli</i> MPN/100 g : 230 or less.	There are also processing & preservation standards.

Table 3-2. Standards and criteria of seafoods under the Food Sanitation Law, Japan.

Classification	Standards and Criteria	Remarks
Frozen Food	<p>Frozen food that is eaten without heating :</p> <ul style="list-style-type: none"> <li>- Viable bacteria count : <math>1.0 \times 10^5</math>/g or less.</li> <li>- Coliform organism: negative/0.01 g.</li> </ul> <p>Frozen food that is eaten after heating: (those heated just before freezing) :</p> <ul style="list-style-type: none"> <li>- Viable bacteria count : <math>1.0 \times 10^5</math>/g or less.</li> <li>- Coliform organism: negative/0.01 g.</li> </ul> <p>Frozen food that is eaten after heating (except foods heated just before freezing):</p> <ul style="list-style-type: none"> <li>- Viable bacteria count : <math>3.0 \times 10^6</math>/g or less.</li> <li>- <i>E. coli</i> : negative/0.01 g.</li> </ul> <p>Raw edible frozen fresh fishery products:</p> <ul style="list-style-type: none"> <li>- Viable bacteria count : <math>1.0 \times 10^5</math>/g or less.</li> <li>- Coliform organism: negative/0.01 g.</li> </ul> <ul style="list-style-type: none"> <li>- Storage temperature: <math>-15^\circ\text{C}</math> or less.</li> <li>- When preserving, should be packed with clean, sanitary synthetic resin film, aluminium foil, or water proof paper.</li> </ul>	<p>Frozen foods are processed foods (except edible meat products, whale meat products, fish paste products, and sliced or shelled fishery products) that are frozen, packed and wrapped.</p> <p>Frozen foods that are eaten without heating are those produced or processed, frozen and which do not require heating before eating.</p> <p>Frozen foods that are eaten after heating are those foods that are produced, processed and frozen, other than those that are not heated before eating.</p> <p>Raw edible frozen fish and fishery products are, among frozen foods, those that are sliced or shelled, and frozen.</p> <p>There are also processing standards.</p>

Table 3-3. Prohibited additives for specific foods.

Commodity	Prohibited additives
Cured fish meat	Synthetic colour : tar, titanium dioxide
Fresh fish & shellfish	Synthetic colour : annato, water soluble sodium norbixin potassium norbixin $\beta$ -carotene sodium iron chlorophyllin titanium dioxide natural colouring nicotinic acid nicotinamide
Oyster for raw consumption Frozen fish & shellfish	Synthetic additives (except sodium hypochlorite, NaOCl)

Source : Ministry of Health and Welfare Notification No. 153,  
27 August 1983. Final revision.



Table 3-4. Criteria of food additives.

Commodity	Additives	Criteria/Standard
Shrimp	Sodium hydrogen sulfite solution : sodium sulfite sodium hyposulfite potassium pyrosulfite sodium pyrosulfite sulfur dioxide	Peeled shrimp : less than 0.1/kg as -SO <sub>2</sub>
Frozen fish & shellfish (except raw consumption fish, shellfish & oyster)	Anti-oxidant : butylated hydroxytoluene (BHT)	Less than 1 g/kg (immersion solution)
Processed fish & shellfish (except jelly fish products)	Sweetener : sodium saccharin	Less than 1.2 g/kg
Dried fish & shellfish	Preservatives : sorbic acid potassium sorbate Anti-oxidant : butylated hydroxytoluene (BHT) Sweetener : sodium saccharin	Less than 1 g/kg as sorbic acid Less than 0.2 g/kg Less than 1.2 g/kg
Salted fish & shellfish	Anti-oxidant : butylated hydroxytoluene (BHT) Sweetener : sodium saccharin	Less than 0.2 g/kg Less than 1.2 g/kg
Caviar	Preservatives : benzoic acid sodium benzoic acid	Less than 2.5 g/kg as benzoic acid

Table 3-4. Criteria of food additives (contd.).

Commodity	Additives	Criteria/Standard
Salted salmon roe	Colour fixative : sodium nitrate	Less than 0.05 g/kg as residual NO <sub>2</sub>
Fish jelly products	Sweetener : sodium saccharin	Less than 0.3 g/kg
Fish jelly products (except surimi)	Preservatives : sorbic acid, potassium sorbate	Less than 2 g/kg as sorbic acid
Fish sausage & ham	Colour fixative : sodium nitrate	Less than 0.05 g/kg as residual NO <sub>2</sub>
Fish sausage	Water binding agent : sodium chondroitin sulfate	Less than 3 g/kg
Sea urchin	Preservatives : sorbic acid, potassium sorbate	Less than 2 g/kg
Smoked squid & smoked octopus	Preservatives : sorbic acid, potassium sorbate Anti-oxidant : butylated hydroxytoluene (BHT) Sweetener : sodium saccharin Quality improvement agent : propylene glycol	Less than 1.5 g/kg Less than 0.2 g/kg Less than 1.2 g/kg Less than 2% in squid & less than 0.6% in octopus
Fish boiled with sugar & soy	Preservatives : sorbic acid, potassium sorbate Sweetener : sodium saccharin	Less than 1 g/kg as sorbic acid Less than 0.5 g/kg

Source : Ministry of Health and Welfare Notification No. 153, 27 Aug 1983. Final revision.

Table 4-1. Detention or violations of ASEAN origin, 1988 and 1989.

Country	Year	Commodity	Detention or Violation (kg)	Reason	Remark
Philippines	1988	Fresh rock cod (2 cases)	90	Poisonous fish	Moon-tail seabass (ciguatoxin)
		Frozen shrimp	1237	Decomposed, mould	-
	1989	Frozen octopus	360	Viable bacteria count & coliform group	Viable bacteria count : $1.0 \times 10^5$ /g or less; coliform group : Negative/0.01 g
		Frozen bloody clams (for raw consumption)	275	Viable bacteria count	-ditto-
		Frozen food (crab claw)	1,572	Viable bacteria count	$1.0 \times 10^5$ /g or less
Thailand	1988	Dried shrimp	500	Prohibited colour	-
		Prepared shrimp	29	Benzoic acid	Prohibited
		Frozen food (prepared squid)	9,000	Viable bacteria count	$1.0 \times 10^5$ /g or less
	1989	Dried squid	2,000	Sodium cyclamate	Prohibited
		Dried ray-fin	4,275	Sulfur dioxide (-SO <sub>2</sub> )	0.03g/kg or less
		Dried shrimp	2,500	Colouring agent : Orange II	Prohibited
		Frozen fishball (fish paste products)	400	Coliform group	Negative/g
		Frozen food (prepared squid)	10,700	Viable bacteria count	$1.0 \times 10^5$ /g or less
Malaysia	1988	Frozen shrimp	1,986	Decomposed, mould	-
Singapore	1988	Dried shark fin	102	Sulfur dioxide	0.03g/kg or less
	1989	Fresh rock cod	12	Poisonous fish	-

Source : Imported Foods; Japan Food Hygiene Association (1988 and 1989)

Table 4-2. Detention or violations of fish and fish products, 1988.

Commodity	Country	Detention or Violation (kg)	Reason	Remark
Fresh puffer fish ( <i>Shosai fugu</i> )	China	158	Foreign puffer fish	
Fresh puffer fish	Korea (5 cases)	73	Foreign puffer fish	
Frozen mackerel	Norway (2 cases)	64,220	Decomposed, mold	
Frozen puffer fish ( <i>Karasu fugu</i> )	China	1,867	Decomposed, mold	
Frozen puffer fish ( <i>Mafugu</i> )	China	304	Decomposed, mold	
Frozen puffer fish ( <i>Nashi fugu</i> )	Korea	41	Foreign puffer fish	
Frozen puffer fish ( <i>Saba fugu</i> )	Taiwan	60	Foreign puffer fish	
Fresh sea urchin	USA	21	Decomposed, mold	
Frozen shrimp	China (2 cases) Taiwan Brazil (4 cases)	796 2,148 123,120	Decomposed, mold Sulfur dioxide Sulfur dioxide	0.1g/kg or less
Raw consumption chilled shrimp	Hong Kong	1,000	Boric acid	Prohibited
Dried shrimp	Taiwan	8,080	Sulfur dioxide	
Frozen fish for processing	N. Korea	22,894	Decomposed	
Frozen white clam	N. Korea	38,040	Shellfish poison	Diarrhetic
Dried otter-shell	China	10	Sulfur dioxide	0.03g/kg or less
Smoked salmon	Canada USA (3 cases)	57 196	Prohibited colour Nitrite radical (-NO <sub>2</sub> )	Allura red, AC Prohibited
Dried shark fin	Taiwan Hong Kong	240 120	Hydrogen peroxide Sulfur dioxide	Prohibited 0.03g/kg or less
Frozen octopus	Peru	100	Viable bacteria count	1.0 x 10 <sup>5</sup> /g or less
Salted salmon roe	USA Korea	309 200	Nitrite radical Sorbic acid	0.005/kg or less Prohibited
Caviar	Iran Denmark Switzerland USSR Turkey	20 15 182 163 20	Boric acid Boric acid Boric acid Boric acid Boric acid	Prohibited Prohibited Prohibited Prohibited Prohibited
Frozen food (lobster)	Sri Lanka	160	Viable bacteria count	3.0 x 10 <sup>5</sup> /g or less

Source : Imported Foods 1988 : Japan Food Hygiene Association (1988).

Table 4-3. Detention or violations of seafood, 1989.

Commodity	Country	Detention or Violation (kg)	Reason	Remark
Fresh seabream	Hong Kong	789	Decomposed	
Fresh puffer fish ( <i>Tora fugu</i> )	China	3	Foreign puffer fish	
Fresh puffer fish	China	6	-do-	
Fresh puffer fish	Korea (2 cases)	20	-do-	
Frozen flounder	USA	13,013	Decomposed	
Frozen red fish	Portugal	19,775	Decomposed	
Frozen puffer fish	China	2,061	Decomposed	
Frozen puffer fish ( <i>Tora fugu</i> )	N. Korea (2 cases)	162	Foreign puffer fish	
Frozen puffer fish ( <i>Karasu fugu</i> )	N. Korea	16	-do-	
	China	60	-do-	
Frozen puffer fish ( <i>Nashi fugu</i> )	Korea	32	-do-	
Frozen puffer fish ( <i>Sansai fugu</i> )	China (2 cases)	293	-do-	
Chilled frog legs	France	5	Decomposed	
Frozen lobster	Denmark	2,770	Decomposed	
Frozen shrimp	Macao	4,558	Boric acid	Prohibited
	Hong Kong	3,989	Boric acid	-do-
	Taiwan	14,584	Sulfur dioxide (-SO <sub>2</sub> )	≤0.1g/kg
	(2 cases)			
	Sri-Lanka	840	-do-	-do-
	Surinam	48,860	-do-	-do-
Frozen blue crab	Canada	110	-do-	≤0.03g/kg
Frozen tuna (for raw consumption)	Korea (2 cases)	9,020	Coliform	Negative/0.01/g
Frozen sliced tuna	Taiwan	3,240	-do-	-do-
Frozen bloody clam (for raw consumption)	China	600	Viable bacteria count & Coliform group	≤1.0x10 <sup>5</sup> /g Negative/0.01/g
Frozen shrimp (for raw consumption)	Taiwan (2 cases)	144	-do-	-do-
		972	Coliform group	-do-
Frozen Nami clam (for raw consumption)	Canada	10,220	Coliform group	
Frozen sliced flounder	Canada	1,632	Decomposed	
Frozen bigeye	Taiwan	950	Mixed Escolor ( <i>Abura soko Mutsu</i> )	Wax, prohibited 18.5-20.8%
Dried shrimp	Vietnam	5,000	Colouring agent, Orange II	Prohibited
	Taiwan	3,500	Sulfur dioxide	≤0.03g/kg

Source : Imported Foods 1988 : Japan Food Hygiene Association (1988).

Table 4-3. Detention or violations of seafood, 1989 (contd).

Commodity	Country	Detention or Violation (kg)	Reason	Remark
Dried herring	England	684	Colouring agent, Brown FK	Prohibited
Dried mackerel	England	1,349	-do-	-do-
Dried ray-fin	Hong Kong	684	Sulfur dioxide	≤0.03g/kg
	Uruguay	1,980	-do-	-do-
	Tonga	178	-do-	-do-
	Vietnam	20	-do-	-do-
Dried skipjack ( <i>Katsuobushi</i> )	Taiwan	1,500	Decomposed	
Smoked salmon	Denmark	375	Benzoic acid	Prohibited
Smoked swordfish	USA	20	Sodium nitrite (NO <sub>2</sub> )	-do-
Salted jelly fish	China	21,624	Boric acid	-do-
Salted shrimp	Korea	1,260	Benzoic acid	-do-
Caviar	W. Germany	25	Boric acid	-do-
	Switzerland	233	-do-	-do-
Salted alaska pollack roe	Korea	100	Sorbic acid & potassium nitrate	-do-
Frozen fish (fried fish)	Canada (3 cases)	12,253	Decomposed	
Frozen fish (fried squid)	Taiwan	48	<i>E. coli</i>	Negative/0.01/g
Frozen fish (breaded shrimp)	USA	82	Coloring Allura red AC	Prohibited
Frozen food (roasted & prepared eel)	Taiwan	4,001	Viable bacteria count & Coliform group	≤1.0x10 <sup>5</sup> /g
		4,990	-do-	Negative/0.01/g
		790	Coliform group	-do-
Frozen food (crab claw)	Vietnam	1,250	-do-	-do-
		826	Vaible bacteria count	≤1.0x10 <sup>5</sup> /g
Frozen prepared whelk	Hong Kong	328	-do-	-do-
Frozen food (prepared carp)	China	150	-do-	-do-
Frozen food (fishball)	Taiwan	3,936	<i>E.coli</i>	Negative/0.01/g

Source : Imported Foods 1988 : Japan Food Hygiene Association (1988).

Table 5. Food sanitation inspection of imported food.

Fiscal Year	Case of Import (notification)	Ratio of Previous Year	Case of Inspection	% Inspected	Case of Violation ( )%
1970	175,380	114.6 %	11,507	6.6	1,841 (16.0)
1971	188,587	107.5	12,278	6.5	1,138 (9.3)
1972	211,191	112.0	15,556	7.4	1,529 (9.8)
1973	241,160	114.2	14,926	6.2	1,647 (11.0)
1974	202,007	83.8	19,322	9.6	1,339 (6.9)
1975	246,507	122.0	21,461	8.7	1,634 (7.6)
1976	284,846	115.6	20,616	7.2	1,182 (5.7)
1977	311,957	109.5	22,079	7.1	1,205 (5.5)
1978	335,085	107.4	18,498	5.5	1,163 (6.3)
1979	345,462	103.1	38,678	11.2	1,088 (2.8)
1980	314,177	90.9	33,949	10.8	1,066 (3.1)
1981	346,711	110.4	41,415	11.9	964 (2.3)
1982	319,617	92.2	37,227	11.6	569 (1.5)
1983	334,829	104.8	41,448	12.4	469 (1.1)
1984	364,227	108.8	47,080	12.9	444 (0.9)
1985	384,728	105.6	49,046	12.7	308 (0.6)
1986	477,016	124.0	73,116	15.3	558 (0.7)
1987	550,568	115.4	93,769	17.0	572 (0.6)
1988	655,806	119.1	138,388	21.1	1,000 (0.7)

Source : Imported Foods 1988 : Japan Food Hygiene Association (1989).

Table 6. Detention of *Vibrio cholerae* in imported fresh and frozen fish (1987-1989).

No. of finding	Commodity	Origin	Types of <i>Vibrio cholerae</i>	Quantity of disposal (mt)	Method of disposal	Quarantine office location
<b>1987</b>						
7.3	F. shrimp	Bangladesh	OGAWA	2.196	Incineration	Yokohama
16.3	-do-	Philippines	-do-	6.840	-do-	Tokyo
25.7	-do-	Thailand	-do-	0.003	-do-	Osaka, airport
3.8	F. cuttlefish	Philippines	-do-	0.018	-do-	-do-
2.9	F. shrimp	Taiwan	-do-	0.044	-do-	-do-
12.9	-do-	Vietnam	-do-	5.180	-do-	Tokyo
13.9	-do-	Sri Lanka	INABA	4.350	-do-	Naha
25.9	-do-	Taiwan	OGAWA	11.873	-do-	Yokohama
17.9	-do-	Indonesia	INABA	0.5184	-do-	Muroran
18.10	-do-	Taiwan	OGAWA	3.000	-do-	Tokyo
27.11	-do-	India	INABA	2.980	-do-	Tokyo
<b>1988</b>						
1.2	-do-	Thailand	OGAWA	13.200	-do-	Moji
<b>1989</b>						
20.9	-do-	Philippines	INABA	0.0044	-do-	Narita
20.9	F. crab	Thailand	INABA	0.003	-do-	Narita
26.9	F. fish	Indonesia	INABA	0.0131	-do-	Narita
27.9	Chilled tuna	Indonesia	INABA	2.327	-do-	Narita

From 1987 to 1989 : Total 16 cases, disposal weight : 52.5499 mt

Remarks : F = Frozen

Type of *Vibrio cholerae* : OGAWA, INABA : Biotype eltor

Source : Quarantine Office, Ministry of Health and Welfare (1989)

trol, resulting from governmental and voluntary inspection in the exporting countries.

Finally I'll touch on the *Vibrio cholerae* problem. As you are aware *Vibrio cholerae* is a lethal infectious disease. Table 6 shows detection of *Vibrio cholerae* in imported fresh or frozen fish and shellfish from 1987 to 1989. In each instance, the cargo was disposed of by incineration.

I suggest that on your part, much can be gained through a little more understanding of the microbiological and food additive standards in the Food Sanitation Law of Japan, and through improvements in quality and hygiene control, especially in the handling of seafood.



### **Acknowledgement**

For information on the inspection procedures for imported seafood, I wish to thank Mr A Matsumura and Mr R Ito for citations from "Food Sanitation Inspection of Imported Food in Japan" (Published by Japan Food Hygiene Association, 1980).

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### **Discussion**

In the ensuing discussion, it was pointed out that the method of analysis for bacteria and *Vibrio cholera* used in Japan may be different from the method applied in Southeast Asia. It was therefore suggested that Japan introduce a standard method of analysis and that SEAF-DEC disseminate it to the Member Countries.

The Chief of MFRD informed the meeting that the Laboratory Manual on Analytical Methods and Procedures for Fish and Fish Products published by MFRD in 1987 will be revised. The new edition will include unified criteria and a method for the analysis of the presence of bacteria and *Vibrio* in food.

The subject of antibiotics which are commonly used in the culture of shrimp was discussed. To ensure that there would be no antibiotic residue in the tissues of shrimp, Mr Yamagata suggested that continued caution should be exercised in the use of antibiotics in shrimp culture and a safe withdrawal period should be considered.