SECTION 2

Major importers: requirements and opportunities

European Union importing requirements and opportunities

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ABSTRACT

Consumers in the 25 Member States of the European Union (EU) want seafood that is safe and wholesome. The concern of the EU is to make sure that the food its citizens eat is of the same high standard, whether it comes from inside or outside the EU. Since the bovine spongiform encephalopathy (BSE) crisis the EU has made a political choice not to compromise over food safety rules. The average EU fish consumption stands at 22.7 kilograms per capita per year, which is above the world average and is continuing to grow.

The increasing depletion of EU fishery resources has resulted in a drop in catches of about 10 percent over the past decade. As consumer demand has increased by nearly 10 percent in the same period, the shortfall has been made up by growth in imports, now accounting for 64 percent of supply needs.

This provides an obvious opportunity for exporters from around the world. This paper outlines the EU regulatory system for fisheries products, principally with regard to revised health legislation. The role of different actors involved in the legislative process and in ensuring food safety is also presented. Harmonised health rules were introduced at the beginning of the 1990s and these have been updated and will apply from 1 January 2006. The same rules apply to the EU internal market as to imports. Information is given on initiatives to facilitate trade in safe food and to help third counties, particularly developing countries, to better understand the EU regulatory system.

INTRODUCING THE EUROPEAN UNION OF 2005

The European Union (EU) is a family of 25 democratic European countries, called Member States, which work together for peace and prosperity based on the rule of law. The historical roots of the EU date back to the years after the Second World War when there was a strong will to bring to an end the killing and destruction of war which had been all too common in Europe in earlier years. The Treaty of Rome signed in 1957 established the European Economic Community which was renamed the European Community (EC) in 2002. In 2002 the Treaty on European Union was signed.

The EU is not a state, yet it is more than an international organisation. Its population grew to 450 million when ten new Member States joined on 1 May 2004. At this stage the number of official languages increased to 20. The EU is characterised by 'four freedoms', in that people, goods, services and money can move freely within its borders. Under the European Economic Area Treaty of 1995, three additional states, Norway, Iceland and Lichtenstein became part of the single market, although not part of the EU itself. The Member States have set up common institutions to which they delegate some of their sovereignty so that decisions on specific matters of joint interest can be made.

Among the EU Institutions is the European Parliament, which is elected by the people of Europe. It approves the EU budget and has a say in decision making. It is co-legislator with the Council for health legislation having the power of co-decision. For fisheries and trade legislation, for the moment, it has a less powerful role. In these fields it is consulted for its opinion. There are more than 700 Members of the European Parliament coming from all corners of Europe. The Council of the EU, also known as the Council of Ministers, represents the governments of the Member States and decides on legislation. It enacts legislation in the form of regulations, directives and decisions. A regulation is the strongest form of legislation. Regulations have direct effect and are binding in their entirety. Directives on the other hand set out what is to be achieved via implementing rules in the Member States. The Council is governed by a rotating Presidency with one Member State in the chair for a period of six months.

The European Commission (EC) is the driving force and executive body of the EU with more than 20,000 staff. It has the sole right of initiative to propose legislation and has some decision-making powers delegated from the Council. It is the guardian of the Treaties. The Court of Justice ensures that EU legislation is complied with and the Court of Auditors controls budget spending. The Parliament has its seat in Strasbourg but its Committees meet in Brussels. The Council has its headquarters in Brussels. The Commission also has its headquarters in Brussels, but some of its departments are based in Luxembourg and the Food and Veterinary Office (FVO) is based at Grange near Dublin, Ireland.

The Commission is a collegiate body with 25 Commissioners. The current Commission President is Mr José Manuel Barroso from Portugal, under him 24 fellow Commissioners are responsible for Commission departments, known as Directorates-General (DG). Commissioners with portfolios of strong relevance to the seafood sector are, Mr Joe Borg, Fisheries and Maritime Affairs DG, Mr Markos Kyprianou, Health and Consumer Protection DG, Mr Peter Mandelson, Trade DG and Mr Günter Verheugen, Enterprise and Industry DG.

Within the Health and Consumer Protection DG, three Directorates dealing with health issues are particularly relevant for the purpose of this paper; these are concerned with safety of the food chain, international questions, animal health and welfare, and food and veterinary inspection (FVO). Two Community Agencies are also relevant: the European Food Safety Authority based in Parma, Italy is responsible for the provision of scientific advice to underpin legislation; and the European Medicines Agency, based in London, is responsible for ensuring that medicines for human and veterinary use are safe, effective and of high quality.

OPPORTUNITIES IN THE EU MARKET

The EU is increasingly dependent on imports of fish and fishery products to meet its needs. The only sector with a higher reliance on imports is fruit and vegetables. In 2005, the EU25 imported in excess of €14 billion worth of fish and fishery products, while exports amounting to €2.5 billion. The EU trade deficit in fish and fishery products continues to widen and has reached a new record of €11.7 billion.

Most imports go to Spain (20 percent), followed by the United Kingdom (13 percent) and Denmark (11 percent). Some 55 percent of imports came from ten countries with Norway accounting for the largest share (17 percent), followed by Iceland (8 percent) and China (6 percent). Other important exporting countries are Morocco, Argentina, the United States of America, Faroe Islands, Chile and India. In 2005 the most significant imported products in value terms were fish fillets (€3.3 billion), crustaceans (€2.4 billion) and fresh or chilled fish excluding fillets (€2 billion). There is a high demand for semi-processed fish, which can be imported at low tariff rates, to undergo secondary processing in the EU.

The main export items were frozen fish (€879 million), prepared and preserved fish (€307 million) and fresh or chilled fish excluding fillets (€305 million). The trends in EU trade with countries outside the EU for fish and fishery products from 1988 onwards can be viewed in graphical form at the following address: http://ec.europa.eu/trade/issues/sectoral/agri_fish/fish/index_en.htm.

Specific details for three of the more important imported products, shrimps, tuna and salmon can be viewed at the related site: http://ec.europa.eu/trade/issues/sectoral/agri_fish/fish/pq_en.htm.

The growth in aquaculture production has led to a greater role for farmed aquatic products in international trade but the exact share cannot be established with any accuracy because of the lack of a reliable breakdown of trade statistics (i.e. customs nomenclatures do not necessarily distinguish between wild and farmed fish).

Trade has proved to be one of the most effective tools to foster development. Increased trade with developing countries will enhance their export earnings, promote their industrialisation and encourage the diversification of their economies. The classical instrument for achieving these objectives is tariff preferences, where the goods that the EU imports from developing countries are not submitted to the normal customs duties. Tariff preferences provide an incentive to traders to import products from developing countries, thereby helping them to compete on international markets.

In 1968, the United Nations Conference on Trade and Development (UNCTAD) recommended the creation of a 'Generalised System of Tariff Preferences' (GSP) under which industrialised countries would grant trade preferences to all developing countries. This authorises developed countries to establish individual GSP schemes. The European Community was the first to implement a GSP scheme in 1971. The EU GSP grants products imported from GSP beneficiary countries either duty-free access or a tariff reduction, depending on which of the GSP arrangements a country enjoys. The EU GSP is implemented following cycles of ten years, for which general guidelines are drawn up. Guidelines for the period from 2006 to 2015 were adopted in 2004. In practice, the GSP is implemented by means of Council regulations, during the ten-year cycle. Based on the guidelines of 2004, a new GSP scheme was adopted in June 2005.

The EU is one of the key players in the World Trade Organization (WTO). This is because the EU has a common trade policy, where the European Commission negotiates on behalf of the Member States. As such, the EU is one of the driving forces behind the current round of multilateral trade negotiations in the WTO, the Doha Development Agenda. This round comprises both further market opening and additional rule making, underpinned by commitments to take measures necessary to integrate developing countries into the world trading system, notably by strengthening assistance to build capacity. The main objective of the new round is to put development at the heart of the world trade system in a way that will help combat poverty.

Fishery products play an important role in the European diet as a valuable source of protein and as a healthy food. Consumption within the EU varies, from a high of 56.5 kilograms per person per year in Portugal to a low of 4.4 kilograms per person in Hungary. With the enlargement of the EU to 25 Member States in 2004, average EU consumption stood at 22.7 kilograms per person per year, slightly higher than the world average of 20 kilograms. With Bulgaria and Romania scheduled to join the EU in 2007 the total EU population will increase from just over 450 million to nearly half a billion people.

Strengthening Fishery Products Health Conditions is a five-year programme financed by European Development Fund on behalf of the Group of African, Caribbean and Pacific States (ACP). It offers assistance to institutions and others in the ACP states and in the Overseas Countries and Territories (OCT) with a strong focus on the strengthening of Competent Authorities (CAs). The aim of the programme, which commenced activity in November 2002, is to improve the sanitary conditions

for fishery products as food for human consumption, so as to increase the income of those countries by developing trade and the optimal use of available resources (for details see: http://www.sfp-acp.eu/).

MODERNIZATION OF EU FOOD LEGISLATION

Following the problems connected with bovine spongiform encephalopathy (BSE) the EU carried out a number of reforms to protect the health of consumers. In 1997 the Commission undertook a radical reorganisation of the departments concerned with consumer health and food safety, with particular emphasis on the separation of responsibilities for legislation, inspection, and scientific consultation, and on ensuring the excellence of scientific advice.

In this context a major overhaul was carried out on the EU Hygiene Directives which were gradually developed between 1964 and 1991. Two Directives, one on placing on the market of fishery products and a second on placing on the market of live bivalve molluscs, were agreed in 1991, to facilitate the completion of the European single market in 1993. This overhaul followed a specific recommendation in the EU White Paper on Food Safety[1]to recast horizontal and vertical directives on the hygiene of food of plant and animal origin into a Regulation on hygiene. Among the objectives was to clarify the responsibility of food operators, to introduce the systematic implementation of the system of Hazard Analysis and Critical Control Points (HACCP) in establishments, and to apply hygiene rules at all levels of the food chain, including primary production. It was decided to improve, simplify and modernise this legislation and to separate aspects of food hygiene from animal health and food control issues.

Two years on from the White Paper, agreement was reached on a new general food law, Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002, laying down the general principles and requirements of food law, establishing the European Food Safety Authority and setting out procedures in matters of food safety[2]. This framework regulation establishes risk analysis, with its three component parts of risk assessment, risk management, and risk communication, as a general basis of food law. It takes account of the 'precautionary principle' and sets out general provisions for imposing traceability of food and feed and establishes the Rapid Alert System for Food and Feed. This is a system, first set up in 1979, for the exchange of information on measures to ensure food safety. Weekly overviews are published on the Internet (see:http://ec.europa.eu/food/food/rapidalert/archive_en.htm).

A new set of legislation, known as the hygiene package, was finalised in 2004 to replace the former EU Hygiene Directives, with the date of application set as 1 January 2006. This includes:

- a regulation on general food hygiene, Regulation (EC) No 852/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs[3];
- a regulation on hygiene of certain food of animal origin, Regulation (EC) No 853/2004 of the European Parliament and of the Council of 29 April 2004 laying down specific hygiene rules for food of animal origin[4]; and
- a regulation on official controls, Regulation (EC) No 854/2004 of the European Parliament and of the Council, of 29 April 2004, laying down specific rules of the organization of official controls on products of animal origin intended for human consumption[5].

Also part of this package are Council Directive 2002/99/EC of 16 December 2002,

[1] Communication from the Commission, COM(1999) 719 of 12.1.2000, White Paper on Food Safety
[2] Official Journal of the European Union (OJ), L 31, 1.2.2002, p 1.
[3] OJ L 226, 25.6.2004, p. 1
[4] OJ L 226, 25.6.2004, p. 22
[5] OJ L 226, 25.6.2004, p. 83

laying down the animal health rules governing the production, processing, distribution and introduction of products of animal origin for human consumption[6], and Directive 2004/41/EC of the European Parliament and of the Council of 21 April 2004, repealing certain Directives concerning food hygiene and health conditions[7] as from 1 January 2006.

GENERAL FOOD HYGIENE

Under Regulation 852/2004 all food business operators are to ensure that all stages for which they are responsible, from primary production (including fishing and aquaculture) up to and including the sale to the final consumer, are carried out in a hygienic way. Food business operators carrying out primary production and certain associated activities are to comply with the general hygiene provisions of part A of Annex I of the Regulation, including to:

- prevent contamination arising from water, soil, feed, veterinary products, waster etc.;
- take account of results from tests relevant to animal and human health;
- use medicines appropriately.

This Annex also contains provisions regarding record keeping and recommendations for guides to good hygiene practice.

Food business operators carrying out activities other than primary production are to comply with the general hygiene provisions of Annex II. This sets out the hygiene requirements for: food premises, including outside areas; transport conditions; equipment; food waste; water supply; personal hygiene of persons in contact with food; wrapping and packaging; heat treatment which may be used to process certain foodstuffs; and the training of food workers. Such food business operators are to apply the seven principles of HACCP introduced by Codex Alimentarius (code of international food standards drawn up by FAO/WHO. However, HACCP-based procedures are not required at the level of primary production. The Regulation introduces a system of registration or approval of food businesses. As regards trade, foodstuffs imported into the Community are to comply with the Community hygiene standards or with equivalent standards. Foodstuffs of animal origin exported out of the Community are to at least comply with the requirements that would apply if they were marketed within the Community, as well as to any requirements that may be imposed by the importing country.

The Community microbiological criteria for foodstuffs have subsequently been revised by Commission Regulation (EC) No 2073/2005 on microbiological criteria for foodstuffs[8]. This lays down food safety criteria for certain important food-borne bacteria, their toxins and metabolites, such as listeria, and histamine in seafood. These criteria are applicable to products placed on the market during their entire shelf-life. The microbiological criteria have been developed in accordance with internationally recognised principles, such as those of Codex Alimentarius.

FOOD OF ANIMAL ORIGIN

The provisions of Regulation 853/2004 apply to unprocessed and processed products of animal origin, but not to foods consisting partly of products of plant origin. Establishments handling products of animal origin must be approved by the competent authority in their Member State. This does not apply to establishments engaged only in primary production, transport, or storage of products not requiring temperature-controlled storage conditions. Member States must keep up-to-date lists of approved

[6] OJ L 18, 23.1.2003, p.11
[7] OJ 157, 30.4.2004, p 33
[8] OJ L 338, 22.12.2005, p. 1

establishments, which are given an approval number with additional codes indicating the type of products of animal origin manufactured.
For live bivalve molluscs the Regulation specifies requirements in the following areas:

- production of live bivalve molluscs: three types of production area (Class A, B or C);
- harvesting of molluscs and their transportation to a dispatch or purification centre, relaying area or processing plant;
- relaying of molluscs in approved areas under optimal conditions of traceability and purification;
- essential equipment and hygiene conditions in dispatch and purification centres;
- health standards applicable to live bivalve molluscs: freshness and viability; microbiological criteria, evaluation of the presence of marine biotoxins and harmful substances in relation to the permissible daily intake;
- health marking, wrapping, labelling, storage and transport of live bivalve molluscs;
- rules applicable to scallops harvested outside classified areas.

There are requirements for fishery products with regard to:

- equipment and facilities on fishing vessels, factory vessels and freezer vessels: areas for receiving products taken on board, work and storage areas, refrigeration and freezing installations, pumping of waste and disinfection;
- hygiene on board fishing vessels, factory vessels and freezer vessels: cleanliness, protection from any form of contamination, washing with water and cold treatment;
- conditions of hygiene during and after the landing of fishery products: protection against any form of contamination, equipment used, auction and wholesale markets;
- fresh and frozen products, mechanically separated fish flesh, endo-parasites harmful to human health (visual examination), and cooked crustaceans and molluscs;
- health standards applicable to fishery products: evaluation of the presence of substances and toxins harmful to human health; and
- wrapping, packaging, storage and transport of fishery products.

OFFICIAL CONTROLS

Regulation 854/2004 lays down requirements as regards the approval of establishments by the competent authority. If during a control the competent authority identifies serious deficiencies on the part of a food business operator, it may withdraw this approval. Food business operators must provide the competent authority with all assistance needed to carry out the control, notably as regards access to premises and the presentation of documentation or records.

The official controls include audits of good hygiene practices and HACCP principles. Article 13 deals with listing of production sites for bivalve molluscs in third countries and Article 15 deals with landings of fresh fishery products in the Community by vessels flying the flag of a third country. Specific controls for various sectors are set out in the Annexes to the Regulation.

For live bivalve mollusc production the competent authority must fix the location and the boundaries of production areas. The production areas are divided into three classes:

- Class A areas: areas from which molluscs may be collected for direct human consumption;
- Class B areas: areas from which molluscs may be collected but may be placed on the market for human consumption only after treatment in a purification centre or after relaying;

- Class C areas: areas from which molluscs may be collected but may be placed on the market only after relaying over a long period (at least two months), whether or not combined with purification.

In order to enable production areas to be classified the competent authority must make an inventory of the sources of pollution from human or animal origin and examine the quantities of organic pollutants released during the different periods of the year and their circulation characteristics. It must establish a sampling programme to verify the microbiological quality of the bivalve molluscs and check for the presence of toxin-producing plankton and chemical contaminants. This programme is based on sampling plans that determine the frequency of these controls.

Where the results of sampling reveal non-compliance with the essential health standards, the harvesting of molluscs is to be prohibited within the production area concerned. The production area may not be re-opened until two consecutive analyses separated by at least 48 hours produce satisfactory results. In addition to the monitoring of relaying and production zones, a control system including laboratory tests must be set up in order to verify that the requirements applicable to the end products are being complied with.

In addition to the common control requirements, specific official controls on fishery products are to be carried out at the time of landing or before first sale at an auction or wholesale market. The official controls are to include:

- organoleptic surveillance testing;
- total volatile basic nitrogen tests;
- histamine testing;
- surveillance testing for contaminants;
- microbiological checks;
- parasite screening tests; and
- checks for the possible presence of poisonous fish species or fish containing biotoxins.

Fishery products are to be declared unfit for human consumption if organoleptic, chemical or microbiological checks on such products reveal the presence, in excessive quantities, of substances dangerous to human health.

IMPORTS: LISTS OF THIRD COUNTRIES AND LISTS OF ESTABLISHMENTS

The Commission draws up lists of third countries from which the importation of products of animal origin is authorised. When drawing up these lists, it takes account of: the existing legislation of the third country; the organisation and powers of the CA and inspection services; the country's health situation; the procedures for notifying the Commission and international organisations; and compliance or equivalence with Community requirements and Community controls.

Establishments, factory vessels or freezer vessels, as well as live bivalve mollusc production and harvesting areas, must feature on a list drawn up by the Commission. For inclusion in this list, the competent authority of the third country must guarantee in particular that:

- the establishment, factory vessel or freezer vessel complies with the appropriate Community requirements or their equivalents;
- an official inspection service exists in the country concerned; and
- the inspection service must be able to prevent exportation in the event of failure to comply with Community requirements or equivalent standards.

In the event of a favourable outcome of the EU controls, the Commission will list an establishment, factory vessel, freezer vessel, or production/harvesting area for live bivalve molluscs, approved by the CA of the third country and complying with the existing EU provisions in the sectors of activity concerned. A specified procedure must be followed for updating an already approved list.

CONTROLS: OPERATIONAL CRITERIA

A related piece of legislation, Regulation (EC) No 882/2004 on official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules[9], lays down rules and general operational criteria for the performance of official controls. It specifies *inter alia* that official controls must be effective, that there should be adequate laboratory capacity including facilities and equipment, that contingency plans should be drawn up for implementation in case of a food crisis, that procedures should be documented, and that there should be appropriate training with regular updates for control staff. Article 46 contains provisions regarding Community controls in third countries. Under Article 50 there are provisions for support for developing countries, while Article 51 concerns training courses organised by the Commission to ensure a harmonised approach to official controls. The latter article has given rise to the initiative 'Better training for safer food', (see: http://ec.europa.eu/food/training/index_en.htm).

ANIMAL HEALTH RULES AND FOOD

Council Directive 2002/99/EC laying down the animal health rules[10] harmonizes and strengthens veterinary public health requirements scattered throughout the EU legislation. It makes for the stricter application of animal health rules and a broader scope. The Directive thus covers all production stages of a product of animal origin: primary production, processing, transport, storage and sale. It also applies to live animals intended for human consumption. It lays down animal health conditions applicable to all these stages.

CONTAMINANTS AND RESIDUES

Contaminants are substances that have not been intentionally added to food. These substances may be present in food as a result of the various stages of its production, packaging, transport or holding. They also might result from environmental contamination as is more often the case for seafood. Contamination generally has a negative impact on the quality of food and may imply a risk to human health. The EU has taken measures to minimise contaminants in foodstuffs.

Community measures have been taken for the following contaminants of relevance to fish and seafood: metals (cadmium, lead, mercury, inorganic tin), dioxins and PCBs and polycyclic aromatic hydrocarbons (PAH).

For heavy metals: cadmium, lead and mercury, maximum levels have been established by Commission Regulation 466/2001/EC of 8 March 2001 setting maximum levels for certain contaminants in foodstuffs[11]. For dioxins and PCB there is separate legislation for food and feed; in the case of food maximum limit values were set in Council Regulation (EC) No 2375/2001 of 29 November 2001[12]. In the case of feed, maximum limit values were set in Council Directive 2001/102/EC[13].

The European Food Safety Authority has published an opinion on the health risks related to the consumption of wild and farmed fish on 22 June 2005 with reference to these contaminants. This provides advice on the safety and nutritional contribution of wild and farmed fish. (See: http://www.efsa.europa.eu/en/science/contam/contam_opinions/1007.html).

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[9] OJ L 191, 28.5.2005, p.1

[10] See footnote 6

[11] OJ L 77, 16.3.2001, p. 1 as subsequently amended by Regulation 1881/2006, OJ L 364, 20.12.2006, p. 5

[12] OJ L 321, 6.12.2001, p. 1 as subsequently amended by Regulation 1881/2006, OJ L 364, 20.12.2006, p. 5

[13] OJ L 6, 10.1.2002, p 45 as subsequently amended by Commission Directive 2006/13/EC, L 32, 4.2.2006, p.44

The issue of monitoring aquaculture products for the presence of residues of veterinary medicines and the illegal use of medicines is very important for trade purposes. The EU legislation relating to veterinary medicinal products is available at http://ec.europa.eu/enterprise/pharmaceuticals/index_en.htm. The section on 'maximum residue limits' lists products which are approved or which are banned for use in food producing animals. All other substances are not approved for use in food producing animals.

ASSISTANCE TO EXPORTERS TO THE EU

The EU launched an improved and multilingual version of its on-line Expanding Exports Helpdesk in February 2005, intended to help developing country producers seeking to export to EU markets. The new Expanding Exports Helpdesk service includes new on-line features and key services are now available in English, French, Spanish and Portuguese.

It comprises a 'Market Place' service to facilitate deals between traders and an enlarged database of trade statistics. Work on the second phase of the system, which will widen the range of information to cover product specific import requirements and internal taxation in the Member States is well advanced. This has been established as a platform for dialogue between exporters in the developing world and EU importers, see: 'http://ec.europa.eu/trade/issues/global/development/pr040205_en.htm' for further details.

The European law site 'EUR-Lex' on the Europa server provides direct free access to European Union law in the EU official languages, including the references cited in this paper. The system makes it possible to consult the Official Journal of the European Union and it includes inter alia, treaties, legislation, case-law and legislative proposals. It offers extensive search facilities and can be accessed at:

'http://eur-lex.europa.eu/en/index.htm'.

CONCLUSIONS

The EU is now dependent on fish imports; 64 percent of fish and fish products consumed by EU citizens are now imported. This consumer demand is likely to grow. It provides enormous opportunities for fish exporting countries, including developing countries, to sell their products in EU markets.

The EU is determined to ensure the safety of products sold to its citizens. Food must meet high safety and quality standards regardless of where it is produced. A comprehensive regulatory system has been designed to ensure these standards are met. The relevant regulations and directives, and the role of the various EU decision-making bodies responsible for them, were outlined above.

The EU has also taken steps to provide information to third countries, in particular developing countries, to assist them in understanding the regulatory framework, so as to improve their compliance with safety standards and to enable them to take advantage of the trade opportunities the EU market offers.

Japanese importing requirements and opportunities

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ABSTRACT

In Japan a new era in food safety emerged following the outbreak of Bovine Spongiform Encephalopathy (BSE) in 2001. It led to the re-organization of parts of the Japanese government administration and the establishment of new regulations. The Food Safety Basic Law (FSBL) was enacted in 2003, while the Food Safety Commission (FSC) was given the responsibility for risk assessment. The Ministry of Agriculture, Forestry, and Fisheries and the Ministry of Health, Labour, and Welfare, both adjusted their roles accordingly. The Food Sanitation Law was also revised.

Sixty percent of the Japanese diet is imported foods. In recent years the number of import notifications submitted has increased significantly. This is due to a number of factors. Food industries have developed in exporting countries to produce more processed foods, so there are more types of food products available for importation. Some manufacturers in exporting countries have also started producing processed foods that better suit the tastes of Japanese consumers. Moreover, Japanese food businesses have shifted some of their manufacturing operations abroad, producing products that are then re-imported.

The FSBL states that, "Food safety may be affected by every element in a series of internal and external food supply process, from the production of agricultural, forestry, and fishery products to food sales." The monitoring of imported foods includes measures to ensure sanitation at three stages: in countries of origin, at entry point, and in domestic distribution. Under this scenario, the Japanese government needs to cooperate more with exporting countries.

Various kinds of actions are taken to ensure food safety in Japan including; ensuring a quick response to import notifications submitted, developing the concept of risk assessment at FSC, and facilitating other approaches such as, HACCP, ISO22000, a traceability system, and a food labelling system in the private sector. This paper outlines the main import requirements in the Japanese system and the opportunities they present for exporting countries.

INTRODUCTION

In Japan, a new era in food safety emerged following the first outbreak of Bovine Spongiform Encephalopathy (BSE) in September 2001. This shock, coupled with other food safety scandals led to the reorganization of relevant parts of the Japanese government administration and the establishment of new legislation. The Food Safety Basic Law was enacted and a new ministry, the Food Safety Commission was set up. A risk analysis approach to food safety was applied for the first time.

THE IMPORTANCE OF IMPORTED FOOD

According to "the Food Supply and Demand Table", Japan's domestic production supplies only 40 percent of the foods consumed (based on calories supplied). Therefore, Japan relies on imported foods for 60 percent of its food supply. In fishery products, 49 percent is produced domestically, while 51 percent is imported. Japan's reliance on imported food means that stable imports are required. This presents opportunities for exporting countries.

The Food Safety Basic Law states that: "Food safety may be affected by every element in a series of internal and external food supply process, and shall be ensured by taking the necessary measures appropriately at each stage of the food supply process." Measures are required at three stages: in exporting countries, at the point of entry, and in domestic distribution. It is therefore necessary for the Japanese government to cooperate with exporting countries.

IMPORT PROCEDURES

The procedures for importing products into Japan include:

- Submission of import notification: Those who wish to import food for direct sale or for further processing must first notify the relevant Minister. The notification form must be submitted along with other documents outlining the materials involved, the ingredients used and the manufacturing methods employed.
- Examination of documents at the quarantine station.
- Inspection: Most cargoes, relating to about 90 percent of import notifications, go directly into domestic distribution following document examination. The remaining 10 percent are required to be tested at laboratories. "Inspection" here includes laboratory testing.

There are three types of inspections.

Monitoring inspection system

Each year the monitoring inspection plan designates the items to be subjected to monitoring, based on annual import records and the record of non-compliance. The purpose of this monitoring is to collect data on the sanitation status of a range of food items so as to promote the smooth distribution of these items. While food sanitation supervisors carry out sample inspections, the import procedures can be continued without waiting for the inspection results. The cost of inspection is borne by the Japanese government.

If any violation is discovered in the process of the monitoring inspection, the inspection frequency is increased to 50 percent of notifications for the same product. If the same product exported from the same country or by the same manufacturer is found to violate the Law more than twice, any other foods exported from the same country or by the same manufacturer are considered to have a high probability of also violating the Law. These products are subsequently subjected to an inspection order.

Inspection order system

If, on examination of the relevant documentation, information about the country of origin, or the nature of the food, indicates a potential violation of the Food Sanitation Law or if the 'record of non-compliance' of similar items indicates potential violations, an 'Inspection order' will be issued by the Minister. When this occurs the import procedure will be suspended until it is proved that the food in question is in compliance. This system is mandatory and called the 'Inspection Order System'. The importer is responsible for the cost of the inspection. The Minister orders the importer

to take the inspection at a designated inspection laboratory. The Japan Frozen Foods Inspection Corporation[1] is a major designated inspection laboratory.

Other inspection systems

There are two other inspection systems; "Guidance" inspection and "Administrative" inspection.

During guidance inspection, a food sanitation supervisor instructs an importer to conduct testing to check for agricultural chemicals, veterinary drugs and additives, where these have been found in the 'violation information' of similar foods. The importer is responsible for the cost of testing, and the import procedure will be suspended until compliance is clarified.

Administrative inspection is relatively rare. Administrative inspection is carried out by food sanitation supervisors, when food has been involved in an incident, or a potentially contaminating event, during transportation for confirmation. The cost of inspection is borne by government.

'Monitoring' and 'administrative' inspections are carried out at government quarantine stations, while the other two inspections, 'ordered' and 'guidance', are conducted in designated inspection laboratories.

SIMPLIFYING AND EXPEDITING IMPORT PROCEDURES

A range of procedures has been introduced to simplify and expedite the process of food importation.

Name	System described
Advance Notification System	For all food and related products, the import notification form can be submitted up to 7 days before the estimated date of the cargo's arrival. Except for cargo that needs an inspection, a copy of the certificate of notification is issued immediately, either before the arrival of cargo or after the cargo is unloaded in a 'bonded area'.
Planned Import system	If a certain food or related item is likely to be imported repeatedly, an import plan can be submitted at the time of the first import. When the plan is found satisfactory, the submission of import notification is exempted for a certain period.
Inspection Results by Public Inspection Organizations in Other Countries	When a cargo is inspected by a public inspection organization in the exporting country prior to export, and a report of the result from the inspection is attached to the cargo, the inspection at the quarantine station may be waived. Inspection items whose results are subject to change during transportation (bacteria, mycotoxin, etc.) are excluded from this. For further information on specifications and standards for food, food additives, etc. JETRO's home page can be consulted: *http://www.jetro.go.jp/se/e/standards_regulation/index.html*
Continuous Import of Same Items	When foods and related products are imported repeatedly and inspection results are attached to the import notification form at the initial import, and if document examination exposes no problems, inspection can be exempted for further importation in a given period.
Advance Approval of Imported Foods and related Products	When the imported food is confirmed to be in compliance with the Food Sanitation Law, the items and their manufacturers may be registered. Inspection at importation is exempted for these items for a certain period of time, and the certificate of notification is issued immediately following submission of import notification.

MONITORING AND GUIDANCE SYSTEM FOR IMPORTED FOODS

Figure 1 summarizes the monitoring and guidance system for imported foods. Under revised legislation the Imported Foods Monitoring and Guidance Plan was introduced. The results of the Plan were published for the first time for the 2004 financial year.

The plan covers three stages of the importation process: in the exporting country, at the point of entry, and during domestic distribution.

Exporting countries

Based on 'violation information', the Japanese government supports the efforts made in exporting countries to achieve food safety by:

[1] The Japan Frozen Foods Inspection Corporation is the author's corporation.

- holding bilateral talks with those countries;
- dispatching experts to those countries;
- providing technical support such as hosting overseas government officers for training; and
- promoting pre-export inspection by public organizations.

At entry point

As outlined above, there are three types of inspection at entry point. Information of past violations can be used in the process of 'monitoring inspection'. The results of entry inspection are used as 'violation information'.

Domestic distribution

Sample inspections are undertaken by Prefectures. If there is a violation of safety standards, it is notified as 'violation information'. Overseas food safety information, pre-guidance such as import consultation, and voluntary management by importers are all used as violation information. There is a feedback loop of notification of 'violation information' back to exporting countries.

Results of the Plan for 2004

The results of the Plan for the financial year 2004 indicate that:

- 1.8 million notifications were submitted, corresponding to a total of 32 million tons of food;
- 190 000 notifications were subject to inspection, amounting to 10.4 percent of total import notifications;
- 77 000 monitoring inspections were enacted, relating to 4.2 percent of import notifications;
- 85 000 inspections were ordered, which amounts to 4.7 percent of import notifications. Inspection orders are fixed to an export country, local area, and/or intended products. Orders were focused on 14 products regardless of country of origin, and on 128 products from 24 exporting countries and one region;
- Other types of inspections accounted for 24 000 inspections or 1.3 percent of import notifications;
- 1,017 products were reshipped or disposed of after rejection, corresponding to only 0.05 percent of import notifications.

Changes of imports by weight and number of import notifications

Graph 1 shows the changes in the amount of imported foods by weight and by the number of import notifications submitted. The number of import notifications has increased significantly while weight is increasing slightly but steadily, suggesting that there are more players in the import market dealing with a relatively stable volume of product. This poses a challenge to the government; the administration must be able to handle the increasing volume of notifications to ensure efficiency in the importation process.

Reasons for increased notifications

The reasons for the increase in notifications can be illustrated using shrimps as an example. In the 1980s shrimp imports were limited to wild shrimps. Potential safety hazards were limited to the bleaching agents used to prevent black discoloration. In the late 1980s the black tiger shrimp aquaculture industry was established. New potential hazards in the form of antibiotics, such as oxytetracycline and tetracycline, were introduced to prevent disease. Food processing then developed further in exporting countries. Importing packaged processed shrimp products became popular. The Japanese food industry then began shifting some of its manufacturing bases to

Asian countries, whose products were subsequently imported back into Japan. In addition, new products emerged on the market, specifically designed to meet Japanese requirements or taste. Initially these were limited to fried shrimp products. Now they include shrimp tempura (deep-fried), shrimp chili sauce and seafood mixes to name just a few. Consequently, materials and inspection items increased, corresponding to the food additives, microorganisms, antibiotics and potential food contamination substances involved. The result is that there are more notifications because shrimps are now imported in a range of different forms carrying an enlarged range of potential food safety hazards.

Other seafood has similar histories, with the development of new products bringing new safety and sanitation hazards. Examples include the following:

- 1989: Oxolinic acid found in imported cultured eels (residue of an antibacterial agent);
- 1992: Domoic acid found in Dungeness crab from the United States (marine toxin);
- 1994: Coloring agent found in frozen Ark shell from South Korea (undesignated additive, camouflage of shellfish color);
- 1997: Pieces of lead found in sandfish from North Korea (camouflaging the weight of the fish);
- 1997: Carbon monoxide found in tuna from Indonesia (undesignated additive, camouflage of fish color);
- 2001: *Shigella sonnei* in oysters from South Korea (contamination of disease-causing germ);
- 2003: Enrofloxacin found in eels from China (residue of an antibacterial agent);
- 2003: Oxolinic acid found in cultured salmon from Chile (residue of an antibacterial agent);
- 2005: Malachite green in cultured eels from China (residue of an antibacterial agent).

FUTURE DEVELOPMENTS

More inspection capacity

In addition to the Government's efforts to smooth import procedures, the introduction of the Imported Foods Monitoring and Guidance Plan, and the related co-operation this implied with exporting countries, the revised Law also gave private sector inspection laboratories the right to participate in inspections as 'designated inspection laboratories'. This revision enables designated inspection laboratories to play a role in government monitoring inspections. This amounts to an expansion of inspection capacities.

Risk analysis

Risk analysis has been introduced as part of the Food Safety Basic Law. The food safety commission is in charge of risk assessment, while the Ministry of Agriculture and the Ministry of Health are responsible for risk management. However, there is still lack of scientific data about Japan itself and about foreign countries. Consumers tend to demand 'no risk' which government is unable to guarantee. It will take time before risk analysis is fully understood and widely accepted.

Positive list for residual agricultural chemicals

A requirement of the revised Law is the development of a 'positive list' system for residual agricultural chemicals. The Japanese government will set out standards against which agricultural chemicals will be considered for inclusion in the positive list. This is a big challenge for the agriculture and food industry. Law enforcement will apply

not only to pesticides but also to veterinary drugs and feed additives. Pesticides are not used directly in fish feeds, but unintentional environmental pollution and veterinary drugs and feed additives used in aquaculture mean that they can appear in fish products, albeit in very limited amounts.

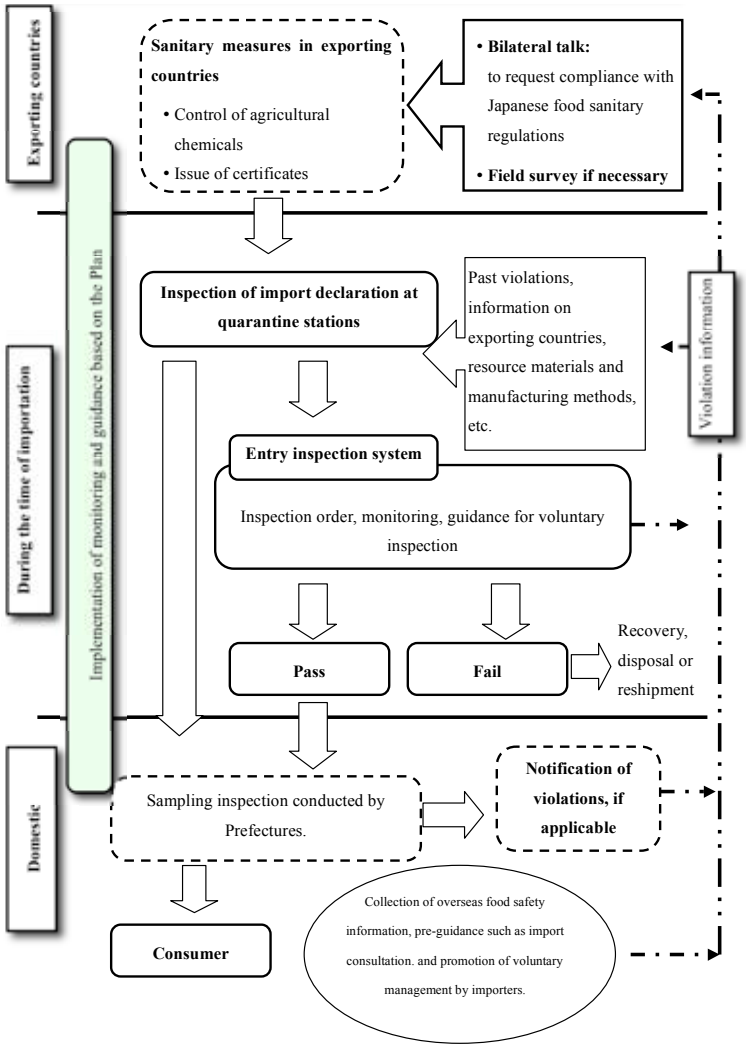
HACCP

HACCP has been partly adopted in the food industry as part of the Government's 'Total Sanitation Control Manufacturing Process' and as an HACCP system designed for exporting seafood products into the United States and European Union. However, HACCP programmes are not yet fully operational in Japan, mainly due to a lack of HACCP experts. As ISO22000 reorients the industry towards an international standard and ISO 9000 experts move toward to ISO22000, there will be a need for further training to develop HACCP expertise.

Traceability

There are still arguments for and against traceability systems among manufactures and retailers in Japan. Many electronic companies have developed traceability devices. There is arguably too much traceability in Japan; on a cost-benefit analysis it is difficult to judge performance. Clearly however traceability is an important mechanism for keeping imported food safe. Moreover, traceability systems have been discussed in terms of ISO standardization and will be introduced as an administrative guideline, ISO22005, simultaneously with the implementation of ISO22000.

FIGURE 1
Overview of Monitoring and Guidance System on Imported Foods



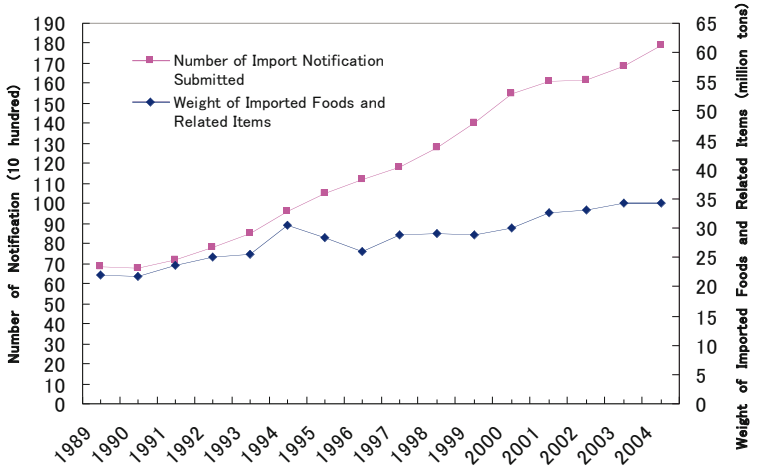
Food labelling and place of origin

Food labelling is increasingly important to consumers. Japanese consumers have voiced dissatisfaction with the complexity of information generated by the Food Sanitation Law administered by the Ministry of Health, and by the Japan Agricultural Standard Law, administered by the Ministry of Agriculture. In terms of imported seafood products, there is a technical difficulty related to labelling the country of origin and the area of water the products derive from.

Inspection of fish for export

The Export Inspection Law of Japan was abolished in 1997. However, there has been some recent growth in exports of agricultural and fishery products. In terms of the export of seafood products, for China an export inspection certificate is required to show compliance with food safety laws set out by the Chinese government, while HACCP systems are required for seafood products exported to US and EU countries. The Japanese Frozen Foods Inspection Corporation was considering proposing the export inspection for China to be included in the ISO17020 standard.

GRAPH 1
Changes in volume of imported foods by weight and number of Import Notifications submitted.



CONCLUSIONS

The new Japanese food safety policy is still in transition. Risk analysis is not yet fully applied. Further developments are expected in HACCP and traceability. ISO is of added importance. There are various others food safety mechanisms to be considered. As Japan relies heavily on processed imported food, food safety in exporting countries is vitally important. The Japanese Government is taking steps to co-operate more with exporting countries. Developments in the private sector in the area of food safety are also occurring in many countries. Therefore communication among private sector players will also become increasingly important.

REFERENCE

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The Canadian Fish Import Inspection Program: new directions

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ABSTRACT

The Canadian Food Inspection Agency (CFIA) has examined its border and import control systems and is moving towards a risk-based system incorporating more integrated import control strategies. An import control policy framework has been developed that reflects the CFIA's vision for the future. New directions for the Fish Import Inspection Program focus on activities upstream (prior to importation), midstream (border entry points) and downstream (after products enter Canada). The new directions define changed roles and responsibilities for the CFIA and for the Canadian fish industry.

INTRODUCTION

The Canadian Food Inspection Agency (CFIA) is operating in a changing environment. The CFIA is facing rapid changes in global transportation and trade, changes that are affecting international inspection practices and regulatory standards for labelling, animal and plant health, and food safety. In response, it is examining its border and import control systems and expects to move towards a risk-based management strategy that incorporates integrated import control strategies, and the increased used of technology.

The Fish Import Inspection component of the CFIA has also been evolving in line with its vision for the future and in response to the development of its Import Control Policy (ICP). This paper provides an overview of some of the concepts that are being explored, and of the options the CFIA is developing as part of its new directions for its fish import control system.

THE CFIA'S IMPORT VISION AND THE IMPORT CONTROL SYSTEM (ICS)

The CFIA's Import Vision

The CFIA has developed a vision for where the agency wants to be in the future.

The CFIA vision is of an organization that:

- is agile, knowledge-based, and recognized as a world leader in import initiatives;
- manages a smart and seamless border, with upstream, midstream and downstream activities based on strengthened partnerships with industry (through shared accountability), provincial and federal governments, foreign governments, and international agencies;
- oversees import control strategies and inspection activities that are guided by common risk management criteria;
- ensures importers are responsible for seeing that the products they import meet Canadian regulatory requirements;

- is accountable for implementing the ICP while respecting the agency's vision and guiding principles; and
- ensures its activities are consistent with Canada's international rights and obligations.

The CFIA Import Control Policy Framework

Out of its Vision for an updated import programme, the CFIA has developed an Import Control Framework that sets out six key policy elements, which include:

- foreign equivalency/certification;
- point of Entry control;
- tracking and informatics;
- importer Quality Management Systems (QMS);
- an inspection programme; and
- new technology.

Import control policy priorities would be described under each element of the programme for each commodity.

The CFIA Import Control Policy Framework is consistent with the following international standards:

- Codex Alimentarius Guidelines for Food Import Controls Systems*;*
- International Animal Health Code of the Office International des Epizooties *(OIE),*
- International Plant Protection Convention (IPPC)
- Sanitary and Phytosanitary (SPS) Agreement of the World Trade Organisation (WTO).

This policy framework is also consistent with Canada's current and anticipated responsibilities under international environmental agreements.

THE CURRENT FISH IMPORT INSPECTION PROGRAM

The Fish Import Inspection Program currently includes many facets of the CFIA's import control framework including:

- use of international arrangements with Competent Authorities (CA) through Mutual Recognition Agreements (MRA) and/or Memoranda of Understanding (MOU);
- controls at the border using mandatory licensing and declaration requirements;
- a voluntary Quality Management Program for Importers (QMPI);
- a regulatory verification programme that includes product inspection of 'basic importers'; system audits of QMPI, and audits of basic importer requirements; and
- defined data tracking processes for imported fish products and associated informatics support.

The Fish Import Inspection Program in moving closer to the CFIA's import vision will have an opportunity to address some of the concerns and issues that have been identified with the existing inspection programme.

The existing programme faces ever increasing workload demands for product inspection from increased import volumes and the increasing diversity and complexity of the food safety risks associated with new products. This, coupled with the lack of a clearly defined risk based regulatory verification system, and industry pressure to merge domestic and import regulatory requirements, poses significant challenges.

NEW DIRECTIONS FOR THE FISH IMPORT INSPECTION PROGRAM: A VISION FOR THE FUTURE

The longer-term directions for the Fish Import Inspection Program are to:

- require importers to take on full responsibility for regulatory compliance, with CFIA providing regulatory verification of importer compliance;
- strengthen the system's focus on upstream activities to ensure compliance prior to importation;
- build in risk based evaluation criteria;
- implement more efficient processes at border entry points and for verification activities after products enter into Canada; and
- develop outcome based regulations to support the framework.

It is expected that the revised programme will create a more level playing field between the domestic industry and importers, and between the two levels of importers within the current system, that is, basic importers and Quality Management Importers.

ACHIEVING THE VISION

The vision of the new Fish Import Inspection Program would be achieved by implementing:

- a mandatory importer quality assurance system (QMS);
- CFIA regulatory intervention strategies that consider product risks and the level of compliance by the processor, as well as the level of controls exercised at each stage of the process by the importer; and
- upstream controls that deal with food safety issues at the source, at the level of the processor.

FUTURE OPTIONS FOR THE FISH IMPORT INSPECTION PROGRAM

Various options and activities are being considered as part of the development of an updated fish import inspection system. Areas being considered are focused on upstream activities (prior to importation), midstream (at the border entry point) and downstream activities (after entry into Canada).

Upstream Options

Mechanisms focused on upstream activities could include:

- a mandatory Hazard Analysis and Critical Control Point (HACCP) system for processors exporting to Canada;
- foreign arrangements linked to import requirements in Canada;
- supplier Quality Assurance agreements between the importer and the exporter/ processor;
- partnering with other foreign government agencies to share audit information and inspection data;
- recognition of third party auditing processes; and
- product testing offshore.

Midstream Options

Mechanisms focusing on midstream activities could include:

- mandatory import licenses and strengthened declaration requirements at border control points; and
- integration of the Canadian Border Services Agency and the CFIA's Import Service Centre to determine compliance with license and declaration requirements at border control points.

Downstream Options

Downstream options can be focused on the role of importers or CFIA activities.

Importer requirements might include:

- mandatory Quality Management System (QMS) import licenses that include:
- requirements for product recall, and complaints records
- import notification requirements
- flexible system options that could be based on the level of food safety risk associated with the product, and the compliance level of the processor;
- implementation of import control systems;
- use of accredited bodies for product inspection; and
- provision of inspection data to CFIA.

CFIA regulatory activities could include:

- verification or auditing of importer control systems;
- implementation of national sampling plans as background monitoring of importer systems;
- provision of industry tools and infrastructure to verify compliance;
- maintenance of inspection data bases, website information, alert lists; and
- implementation of regulatory enforcement or compliance actions, such as product recalls.

THE CHALLENGES OF DESIGN AND IMPLEMENTATION OF A NEW FISH IMPORT INSPECTION CONTROL SYSTEM

Many challenges lie ahead in the design and implementation of new directions for the Fish Import Inspection Program. A series of key challenges have been identified to date, some relating to industry, others to CFIA.

For industry, the system will depend on an importer's acceptance of, and ability to design and implement a QMS. Currently there is a wide range of importers, from small importers supplying product to ethnic and niche markets, to large-scale importers serving major grocery chains. Consequently there is a wide range of technical knowledge of food safety amongst the importer community. Moreover, there are increased costs associated with implementing a quality management system and maintaining regulatory compliance levels. These costs will be borne by industry. For smaller operators the costs are relatively heavier.

The challenges facing CFIA are also complex. The system will depend upon:

- inspector acceptance of a fundamental shift from a product inspection to a risk-based import control system;
- inspector acceptance of shared responsibility with industry for regulatory compliance;
- defining HACCP requirements that can be verified by regulators and third parties;
- providing internal technical and informatics support to the changing system;
- developing regulatory tools to assist industry in their transition to implementation of an importer quality management system;
- developing outcome based regulations that can support future changes to the import programme;
- developing an integrated regulatory compliance strategy and regulatory audit regime that takes into account product risk and importer performance levels;
- developing a recognition process for third parties that conduct activities as part of the QMS processes, such as importer audits;
- developing a seamless electronic data and information exchange system with importers to maintain a high level of confidence in the safety of imported fish products;

- developing a refined performance measurement systems to define QMS compliance levels and food safety conformance; and
- adequate training for inspectors and importers.

The success of the system will also depend on the extent to which national and international relationships support it. This means that current international arrangements need to be reviewed to ensure they are consistent with and support a revised import programme. Processes for sharing information with other government organizations need to be enhanced. Transparent processes to share information on issues, and on problems between governments and between countries' competent authorities, would also be highly useful.

NEXT STEPS

The CFIA's Fish Seafood and Production Division will continue to articulate this vision for the future, and to develop a policy framework for a new Fish Import Inspection Program. It will take some time to develop, consult on, and finalize these new directions, before they become fully operational.

REFERENCES

The CFIA Import Control Policy has been referenced in this document and can be read in its entirety at the CFIA website at http://www.inspection.gc.ca/english/fssa/polstrat/import/imppole.shtml.

The management of import and export seafood safety and quality in China

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ABSTRACT

This paper outlines the management systems for ensuring the safety and quality of seafood imported to and exported from China. It describes the overall management of food safety in China including: the legal framework and administrative arrangements; the management of safety and quality in seafood exports including labelling and traceability mechanisms and the self regulation of export enterprises; and the systems for controlling the safety and quality of seafood imported into China. It concludes that food safety is an issue of common concern to the international community. International cooperation is essential for facilitating international trade and ensuring that seafood products appearing on international markets are of high quality and are safe for consumers.

INTRODUCTION

The Chinese government pays close attention to food safety management. As a large developing and agricultural country of 1.3 billion people, China not only produces various animal and plant-derived foods for export, it also represents a huge market for imported food. Following years of research and practice China has established a whole set of systems for import and export food safety management. These are designed to comply with international practice and to suit China's specific needs. The overall goal is to ensure the safety of imported and exported food.

THE MANAGEMENT OF FOOD SAFETY IN CHINA

China joined the World Trade Organization (WTO) in late 2001. As part of its WTO commitments the Chinese government has reformed its food safety management systems.

Administrative arrangements

In April 2001, the State Council approved the establishment of The General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) of the People's Republic of China. As one of the ministerial-level law enforcing and administrative agents directly under the State Council, the AQSIQ is in charge of quality controls, entry-exit commodity inspection, entry-exit health and quarantine, entry-exit animal and plant quarantine, import and export food safety, and the supervision, authorization and standardization of domestic food production and processing. The AQSIQ leads two vice-ministerial bureaus, the State Administration of Certification

and Accreditation (CNCA), and the State Administration of Standardization (SAC), together with 18 functional departments and bureaus. It directly supervises 35 entry-exit inspection and quarantine agencies, and leads the operations of the quality and technology supervision agencies in 31 provinces.

The Import and Export Food Safety Bureau of AQSIQ is responsible for:

- establishing and implementing the regulations and rules for inspection and quarantine for safety of import and export food and cosmetics;
- organizing and supervising the inspection and quarantine of import and export food and cosmetics;
- organizing appraisals of relevant risks concerning food safety;
- formulating risk management policies and emergency measures; and
- investigating and dealing with major quality or safety concerns or accidents related to imported and exported food.

CNCA has a Department of Registration Management, which is responsible for:

- drawing up the system for registration and management of companies involved in the manufacture or processing of import and export food and cosmetics;
- organizing and coordinating the appraisal and review of health registration; and
- handling the registration and recommendation of Chinese companies and products to foreign countries.

AQSIQ has established 35 entry-exit inspection and quarantine bureaus (CIQ) under its direct leadership in 31 provinces, autonomous regions, and municipalities, as well as in Shenzhen, Zhuhai, Xiamen and Ningbo, which all have their respective branches. These bureaus are in charge of the specific work of inspection, quarantine and supervision of food for import and export.

Legislative framework

The Chinese government has always attached importance to the formulation and implementation of laws and regulations relevant to import and export food safety. While steadily improving the system of management of import and export food safety, the government has enhanced the legal framework for food safety. China has passed a comprehensive set of laws relating to import and export food safety, including:

- The Law of the People's Republic of China on Food Hygiene;
- The Law of the People's Republic of China on Import and Export Commodity Inspection;
- The Law of the People's Republic of China on Entry-Exit Animal and Plant Quarantine;
- The Law of the People's Republic of China on Product Quality.

In addition, AQSIQ has issued a series of ordinances, national standards and industrial standards. Taken together these measures add up to a comprehensive legal system for inspection, quarantine and supervision of import and export food.

To facilitate compliance with the requirements of food safety legislation in countries or regions importing Chinese products, AQSIQ has also compiled and translated the food safety and hygiene laws and standards of the European Union (EU), the United States of America, Canada, Russia, Korea and other major importing nations.

Inspection and quarantine

To enhance its control over import and export food safety, AQSIQ has increased its efforts to build capacity for import and export food inspection and quarantine, and has enhanced its inspection and testing technology. At present, the 35 local bureaus under direct leadership of AQSIQ, together with their 328 sub-bureaus and branches, have a total of 163 food inspection and quarantine centers to undertake the work of import and export food inspection and quarantine. These laboratories have more than

10,000 sets of mostly advanced equipment such as for gas chromatography, liquid chromatography, mass spectrometry, and atomic absorption spectrometry. Up to 6000 technical staff are involved in this work. Overall there is a strong testing and inspection capability.

AQSIQ has also set up the Import and Export Food Safety Institute in its Academy of Inspection and Quarantine Sciences, to conduct research on technologies for import and export food safety. This is aimed at further raising the level of import and export food safety controls.

International cooperation

Economic globalization means that food safety is no longer a national or regional issue, but one that needs concerted world attention as well as participation and cooperation between countries. Consequently, it has been a basic principle for China to cooperate with various countries in the field of import and export food inspection and quarantine. In recent years, in attempts to control different food risks, China has signed cooperation intention statements with more than 20 countries, including: the United States of America, Canada, Japan, Korea, Brazil, Argentina, Australia, New Zealand, Thailand, and Viet Nam, as well as with the EU. To strengthen its cooperation with foreign countries, China annually receives nearly 100 governmental or non-governmental inspection and quarantine delegations from other countries. It also sends large groups of experts to various countries for study, training and to exchange experience and expertise.

This strengthened exchange and cooperation has lead to mutual understanding, consensus, and more effective consultation and negotiation between China and other countries.

Through common efforts at all levels of governments, relevant administrative departments and related enterprises, China's food safety management system is continuously improving. Quality management within enterprises has also been enhanced. Overall, a credible system has been built, and the overall level of food quality and safety effectively guaranteed.

MANAGEMENT OF SAFETY AND QUALITY IN SEAFOOD EXPORTS

China's exports of seafood are increasing. China exported 2,218,000 tonnes, corresponding to US$63.3 billion dollars worth of seafood in 2004, up 15.5 percent and 25.6 percent respectively compared with 2003. A range of measures has been taken to ensure the quality, safety and hygiene of seafood destined for export. AQSIQ has worked with other departments, such as the Ministry of Agriculture, to improve controls at various points in the production process, including over raw materials, processing, storage, and transportation, with considerable success.

To effectively control the quality, safety and hygiene of the raw materials for seafood production, considerable effort has been made to promote the 'company + base' model for export seafood production. Under this model food export companies themselves play the leading control role. Seafood export companies are required to establish catch areas and breeding bases and to practice 'standard management'. A reporting and recording system is applied to the catch area or breeding base for inspection and quarantine purposes. In cooperation with local governments and other departments (mainly those responsible for agriculture), a system of monitoring and prevention of diseases and epidemics has been established. This includes a system for monitoring residues of pesticides and animal medicines. Regular epidemic and disease monitoring should also be practiced, and preventive measures taken accordingly. This includes strict management of feeds, feed additives, pesticides and animal medicines. The programme for monitoring and control of pesticides and animal medicine residues, in both animal and plant-derived foods at their source, needs to be strictly implemented if the safety of export seafood is to be guaranteed.

Labelling and traceability

Building on good quality and safety management of seafood at the source, control mechanisms need to be strengthened at other stages of the seafood production process. An export seafood quality tracing system, with labelling and recall are important components of this, as is standardized batch management of export seafood. These are vital for ensuring the quality, safety and hygiene of export seafood as well as its traceability. In this way, the source can be traced, the product's movement can be tracked, additional information can be acquired, and any defective products can be recalled. When a product is found to be defective, the defect can be traced back from the finished product to its raw materials. With the help of product codes, the pollution source and reason for contamination can be quickly identified, and defective products recalled quickly. Good management must extend through all phases of production, from breeding, raw materials, processing and storage, to transportation.

Registration of enterprises

To enhance control over the whole production process, registration and monitoring of enterprises engaged in export seafood production is also undertaken seriously. Individual enterprises must meet stipulated hygiene requirements to gain registration. Any enterprise without a license or registration certificate is banned from producing, processing and storing export seafood. At present, 2,043 seafood enterprises in China have won registration to engage in the export food business. AQSIQ also recommends qualified enterprises to foreign governments to assist them in gaining registration in importing nations. To date, about 1300 factories have won registration with the relevant authorities in importing nations.

Entry-exit inspection and quarantine organizations randomly check the production and processing sites of enterprises that have won hygiene registration. The findings of these checks are used to evaluate the extent to which the safety control systems governing the production and processing of products at that enterprise are functioning effectively.

Encouraging self-regulation

The system stresses that the responsibility for food safety ultimately rests with the legal representative of an enterprise. Enterprises are encouraged to build a credit system for themselves. AQSIQ together with local CIQs have been helping the enterprises to improve their internal management systems and enhance their food safety awareness. Enterprises are urged and encouraged to build their own laboratories so that they can inspect and test their own products. A 'quality commitment' system is exercised among all food exporting enterprises, which requires them to pledge in writing that their raw materials, production processes and export products all meet the required standards of food quality, hygiene and safety. Those enterprises that have comprehensive and effective self-control systems, good 'credit', and effective controls to detect safety risks will be listed as 'good enterprises' and will be accorded 'preferential treatment'. Conversely, those enterprises that experience repeated quality accidents or have committed fraud will be put on the 'black list' and severely punished.

China practices a whole-of-chain management system for export seafood safety, which extends from fishers or farms, to the dining tables of consumers.

THE MANAGEMENT OF SEAFOOD IMPORTS

As China's foreign trade develops, it imports more and more foods. More aquatic products, fruits, meat, tinned foods and rice, have entered Chinese markets in recent years. China imported 1,745,000 tonnes, worth some US$23.5 billion dollars, of seafood in 2004, up 21.2 percent by volume and 25.7 percent by value compared to 2003. Importing food is good for enriching domestic markets and meeting the diverse

and changing needs of consumers. However, due to uneven levels of food safety management in exporting countries, including those related to seafood, it is a fact that food-borne diseases constitute potential harm to Chinese consumers and industry.

In 2004, of the US$7.75 billion dollars worth of animal derived food that China imported, 1200 batches were found to be compromised for various reasons, such as pollution by disease-inducing microbes, above-permitted levels of poisonous and harmful residues, labels that failed to meet Chinese regulations, or excessive levels of banned or restricted additives.

Inspection and quarantine procedures for imported seafood

The common inbound fishery products inspection and quarantine procedure is as follows. The shipper or their agent must fill in an inbound shipment inspection sheet and must provide a business contract or letter of credit, a certificate of origin, an invoice, a packing list, a bill of lading, and an original official veterinary certificate issued by the exporting country or region. CIQ then carries out a sensory test, or a sampling test, for the imported goods, and checks the certificates. If the goods are tested to be eligible for import, CIQ will issue a certificate for inbound shipment inspection and quarantine, and will permit the import. In the event that the shipment is found to be ineligible, it will be returned, destroyed, treated in some way, or redirected for other purposes.

WTO SPS based mechanisms

To strengthen the safety management systems for imported food, China practices an inspection and quarantine access system according to WTO Sanitary and Phytosanitary (SPS) rules, especially in relation to the animal derived products listed in The Catalog of Entry Animals and Plants for Quarantine Permission and Authorization, which includes seafood. Procedures include the specific steps outlined below.

First, the country that plans to export food to China should provide to AQSIQ documentation about the veterinary service system, plant protection system, and food safety management system in that country (or region) as well as other documentation necessary for risk analysis. AQSIQ then analyses those documents, send experts to conduct site evaluation when necessary, and provides a risk analysis report.

Second, if the potential risks of an imported food can be effectively controlled according to the aforementioned risk analysis, AQSIQ conducts negotiations with the relevant authorities of the exporting country on how to ensure the quality and safety of the imported food, and subsequently signs a protocol of inspection, quarantine and hygiene.

Third, after the signing of the protocol, CNCA examines the export enterprise of the foreign country for its registration and hygiene, and examines the epidemic control system and food safety and hygiene management systems of the area where the company is located. It also examines the production and processing conditions. If the enterprise complies with Chinese laws, regulations, standards and rules, CNCA will approve its application for registration.

Fourth, to export to China any of the plant and animal derived products listed in The Catalog of Entry Animals and Plants for Quarantine Permission and Authorization, before signing any trade contracts, the exporting side needs to first obtain the Entry Animal and Plant Quarantine Permit of the People's Republic of China issued by AQSIQ.

Fifth, when the import food arrives at a Chinese port, the entry-exit inspection and quarantine agencies conduct inspection and quarantine procedures according to Chinese law. Products passing inspection are approved for importation. Customs officials will accordingly allow it to enter and be sold in Chinese markets.

In accordance with the above inspection and quarantine access procedures, AQSIQ has to date signed quarantine and hygiene protocols related to the importation of about

100 animal derived food products from over 30 countries, including: the United States of America, Canada, Australia, New Zealand, Denmark, Holland, France, UK, Russia, Mongolia, Japan, Brazil, Italy, and Argentina.

Enhanced inspection and quarantine mechanisms

To enhance the food inspection and quarantine procedures for imported food, AQSIQ has further perfected its inspection and quarantine measures.

- Procedures for reviewing food imports have been improved. The reviewing has been made fully electronic, and the management of the reviewing and authorization work has been strengthened.
- Better results and more efficiency are being achieved by defining the inspection abilities of each port so that those with superior inspection capabilities have greater scope for authorization.
- Safety supervision and control programmes are concentrated on large batches, or key food products. Very strict measures are taken to monitor imported meat, aquatic products, and milk products for diseases, epidemics, microbes, medicine residues, additives and heavy metals.
- The construction of technological facilities for inspection and testing (laboratories) is being enhanced, including by improving testing equipment, and developing the skills and competencies of staff.
- Food smuggling is being cracked down on, in cooperation with other government departments such as customs and frontier security forces.

Food risk emergency mechanism

To enhance its management of import food safety, AQSIQ has established a food risk emergency mechanism and a quick response management mechanism. When it is found that an imported food product contains contagious animal diseases, parasites, harmful organisms, chemical residues and/or other risks that are potentially harmful to human health, agriculture and husbandry, or public health and security, AQSIQ will issue risk alerts to the various parties concerned. It will subsequently strengthen the inspection and quarantine mechanisms, as well as the supervision and management controls, over products imported from that country or region until the risks are believed to have disappeared.

CONCLUSIONS

Food is the material basis for human existence. As technologies and societies develop, people shift their concerns from basic access to food towards a focus on the safety and quality of that food. Food safety has become an issue of common concern to the international community. China is willing to cooperate with its counterparts in various countries as well as with industry representatives to promote the healthy development of global food trade. By guaranteeing the safety and quality of exported and imported seafood products, China is actively facilitating the development of robust international trade in seafood.

Detentions and rejections in international fish trade

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ABSTRACT

Fish and fishery products are one of the most traded food commodities. About three-quarters of the world's fish exports are destined for three main areas: the European Union (EU), the United States of America and Japan. These three markets dominate both in terms of prices and market access requirements.

Thousands of tonnes of seafood products are detained, rejected or destroyed each year at the national borders of importing countries. This is a post-harvest loss that can and should be prevented. Despite World Trade Organization (WTO) agreements calling for the harmonization of standards, exporters still face safety and quality standards and control regimes that vary from one market to another.

This paper summarizes a FAO study[1] comparing fish safety and quality import regulations in the EU, North America and Japan, and the causes of detentions and rejections of fish products entering those markets. It calls for agreed international control systems and import standards based on objective and science-based criteria and techniques.

INTRODUCTION

Fish and fishery products are one of the most traded food commodities. This trade is likely to increase in future in response to the ever-increasing demand for fish and seafood. However, thousands of tonnes of imported fish and seafood products are detained, rejected or destroyed each year at national borders of many importing regions in the world. This is a post harvest loss that can be prevented, at least in part, thereby providing more value for fishing efforts, making more fish and seafood available for human consumption, and reducing pressure on fish stocks.

One of the most serious difficulties for exporters is that their products encounter standards and safety and quality requirements that vary from one market to another. These differences concern regulations, standards, and control procedures, including controls at the border where seafood products can be rejected, destroyed or put in detention while decisions are taken as to whether they meet importation requirements. To promote harmonization and equivalence among seafood trading nations, these differences need to be reduced and ultimately removed. They should be replaced by agreed international control systems and standards based on objective criteria and scientific techniques.

[1] This paper is a summary of "Causes of detentions and rejections in international fish trade" by Ababouch *et al.* FAO, 2005. Fisheries Technical Paper 473. 110 p.

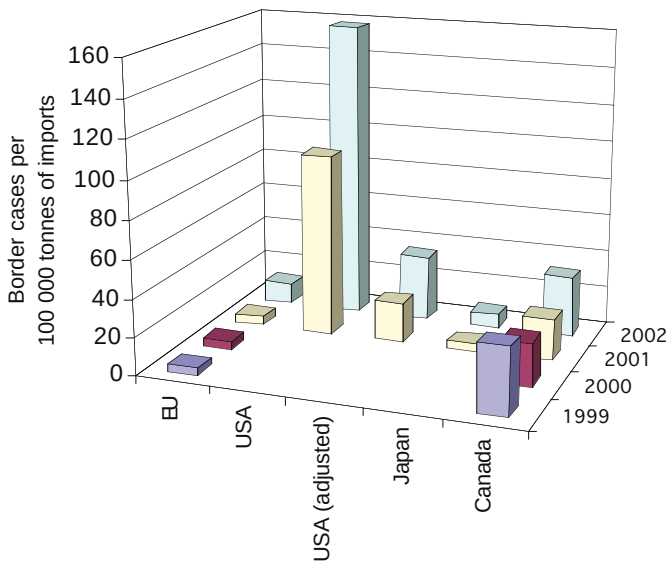
RELATIVE FREQUENCY OF 'BORDER CASES' BY IMPORTING REGION

The term 'border case' is used to describe any situation where a fish product is detained, rejected, destroyed, returned to sender, or otherwise removed, even if only temporarily, from the trade flow.

Figure 1 shows a quite dramatic difference in the absolute numbers of border cases in the various importing countries/regions, when shown relative to import quantities. At first glance, the United States of America has around 10 times as many border cases per 100 000 tonnes of product as the EU or Japan, and 3 to 4 times as many as Canada. This does not necessarily mean that the United States of America has a higher performance in border controls or that products exported to that market have more non-conformity problems. The data need to be adjusted to enable comparisons of performance between the regions studied. There are three main reasons why the number of border cases in the United States of America is overstated.

Firstly, a high percentage of cases end up with the product actually entering the United States of America after re-examination, sorting, re-packing, new documentation and information, or new labelling. During 1999-2001, 78 percent of detained shipments were released for import into the United States of America [2]. Therefore, only around 22 percent of the United States of America cases should be considered as a *bona fide* border case. Taking this into account, the United States of America had only about twice as many border cases as the EU and Japan, and only 60 to 80 percent more than Canada (see Figure 1, adjusted US graphs).

FIGURE 1
Total border cases for EU, USA, Canada and Japan 1999-2002 relative to import quantities



Secondly, the other countries/regions, especially the EU, use some sort of 'prevention at source' approach. Indeed, the EU relies on national Competent Authorities (CAs) in exporting countries to examine establishments and products to assess their conformity to EU requirements prior to shipments. Therefore, some potential non-conforming cases are detected and stopped before they leave the exporting countries. This approach has proven to be more cost effective than relying solely on controls at the border. However, it can also penalize seafood companies, however well managed, in countries that do not have the resources or the capacity to establish a CA that meets EU requirements.

Likewise, Canada, and to some extent Japan, have adopted a 'prevention at source' approach, although less formalized and less active than that of the EU. Canada has concluded 'agreements' with a limited number of countries: Australia, Ecuador, Iceland, Indonesia, Japan, New Zealand, Philippines and Thailand. Japanese

[2] Allshouse, J.; Buzby, J.C.; Harvey, D.; and Zorn, D. 2003. International Trade and Food Safety: Economic Theory and Case Studies / AER-828. p109-124.

importing companies have a long tradition of fielding quality controllers to work at exporting sites. In both cases, a number of non-conformity cases are eliminated before consignments are shipped.

In more and more countries, including the United States[3], experts advise administrations to adopt a 'prevention at source' approach because of its higher performance and cost effectiveness. Prevention at source creates a win-win situation for the exporter and for the importer. While reducing safety and quality problems experienced by the importer, the inherent costs and damages of border cases are reduced for the exporter. At the same time, administrations save significantly on resources needed to manage controls at their borders and are better able to target problem cases, thereby further increasing efficiency. Moreover, reducing losses due to rejections and detentions should eventually result in a larger supply of safe fish and less illnesses from consuming unsafe foods. However, care must be exercised when introducing the 'prevention at source' approach to ensure that exporting developing countries are helped to build the national capacity needed to ensure the safety and quality of their fish products destined for export.

A third difference is the types and methods of control and the standards applied at the border by the importer. In the countries studied, not only are border checks different, the analytical techniques used and the criteria or standards applied to judge conformity or non-conformity also differ from one country to the other. Most importantly, criteria and standards are not always based on fully-fledged scientific risk assessments. This can create arbitrary barriers to trade and is also costly as it may cause safe products to be refused in some regions while unsafe products are distributed in others. Consequently, there is a need to harmonize procedures and standards, at least as a first step amongst major markets, using risk assessment methodologies where applicable.

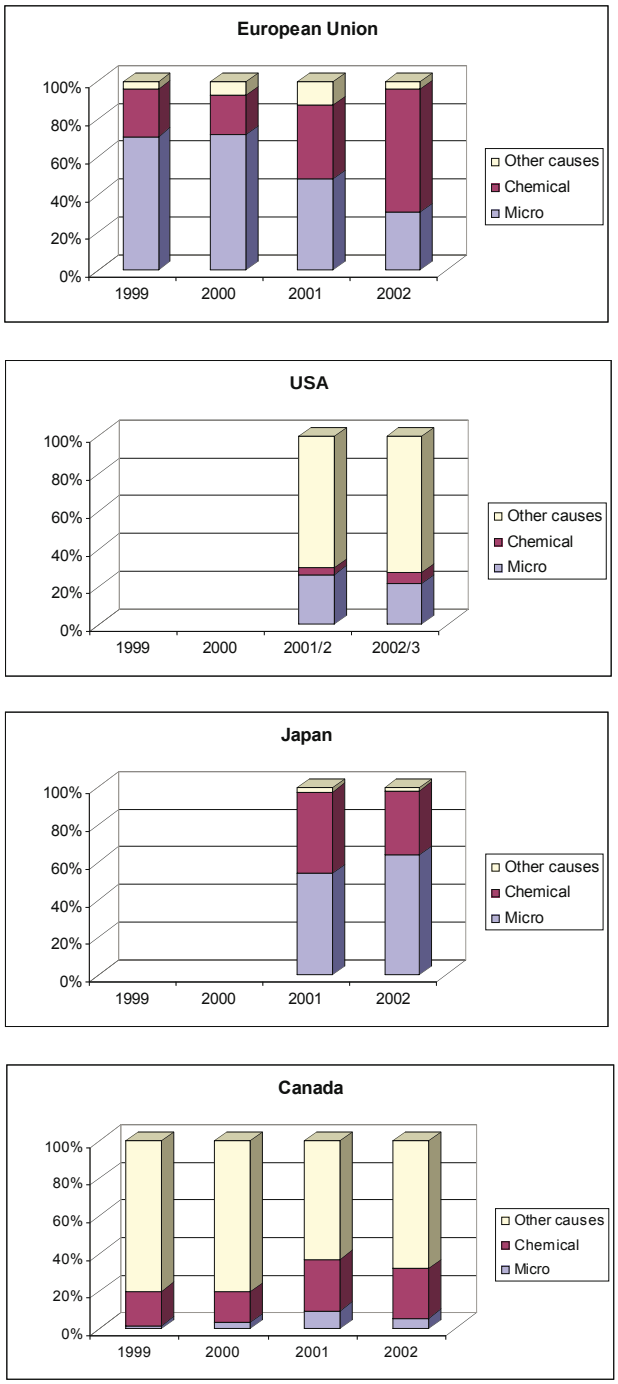
CATEGORIES OF BORDER CASES: PATTERNS AND TRENDS

The breakdown of border cases into three main categories: microbial, chemical, and other causes, for three countries and the EU are summarised in Figure 2. The differences in the profile of these major importers are quite obvious. The EU and Japanese border cases are predominately microbial or chemical in origin, while these causes only account for a quarter to a third of border cases in the United States of America and Canada. Notably, the well-publicised increase of chemical (veterinary drugs) contamination of fish products originating in Asia in 2001/2 (especially for shrimps) becomes evident in the EU data, where chemical contamination becomes a dominant category. Yet for other major importers there is no discernable change. As these other regions were also importing large quantities of shrimp from Asia during this period, they were clearly handling the imported products differently, or recording the relevant data differently.

The obvious differences again point to significant variations in approaches to controls at the borders of the countries being studied. For exporters, it would be helpful if these procedures were harmonized, so that products are treated the same way at importers' borders irrespective of where those borders are. The multitude of approaches to border control imposes extra costs on traders. They may be significant but are difficult to quantify because of the dearth of relevant data, particularly the quantities and value of rejected products, and the costs of controls.

[3] The National Academy of Sciences.2003. Scientific criteria to ensure safe food. The National Academic Press. Washington D. C. Available at http:/www.nap.edn/openbook/030908928X/html./R3.html

FIGURE 2
Relative frequency of causes of border cases for the EU, USA, Canada and Japan



Incidence of border cases for exporters, grouped by continents, in major markets

Available data on the incidence of border cases experienced by exporters permit only a crude analysis, but the results provide a useful basis for discussion. The only two importing regions with full data over the four year period, 1999-2002, to allow comparison of the performance of exporting continents are the EU and Canada. The Japanese data allow this comparison for the two periods 2000/2001 and 2001/2002 (Table 1).

Looking at the data from the perspective of the importing market, there are some significant differences in the relative performance of exporters in the five continents, depending on whether fish is being sent to the EU, Canada or Japan. There are two main explanations for these differences. The EU, Canada and Japan may apply different criteria for border actions (whether sampling frequencies, limits for contamination levels or other procedures) and/or, the five continents export different volumes and types of products to those markets (either different risk categories or of varying quality).

If the latter explanation is correct, given that the product exported to the EU and Canada are fairly similar (frozen fish dominates, and there are significant numbers of crustacea, cephalopods, molluscs, etc.), individual exporters seem to recognise the differences in market criteria and target their products accordingly. This certainly does happen. However, it is probably more likely that importing regions treat imports (as a whole) in different ways, resulting in different border actions. In the case of the Japanese market, the high number and frequency of border cases reported for products imported from Asia may reflect the higher risk products that Japan imports, presumably from its neighbouring countries, where the species are similar to those produced by Japanese fisheries. This can only be conjecture given the nature of the data.

A look at the incidence of border cases by each exporting continent is revealing. Oceania ranks as the best exporting region when exporting to the EU, but ranks very poorly when exporting to Canada and Japan. Africa is the poorest performer in exports to Canada and second poorest to the EU. however, the continent performs quite well in

TABLE 1
Performance of continents in exporting to the EU, Canada and Japan

		1999		2000		2001		2002	
		cases/ 100 000 tonnes	Rank	cases/ 100 000 tonnes	Rank	cases/ 100 000 tonnes	Rank	cases/ 100 000 tonnes	Rank
Oceania	**to EU**	-	1	-	1	5.9	5	-	1
North America	**to EU**	-	1	1.0	3	1.1	2	0.7	2
Europe (not EU)	**to EU**	0.1	3	0.3	2	0.3	1	1.0	3
C&S* America	**to EU**	1.8	4	4.8	4	2.8	3	5.9	4
Africa	**to EU**	7.0	5	5.7	5	4.4	4	6.2	5
Asia	**to EU**	12.9	6	13.9	6	16.4	6	51.5	6
USA	**to Canada**	1.0	1	0.5	1	2.6	1	1.3	1
C&S* America	**to Canada**	31.6	2	19.1	3	25.6	3	25.2	2
Europe (not EU)	**to Canada**	32.0	3	18.3	2	9.1	2	29.1	3
Asia	**to Canada**	67.5	4	44.6	4	32.6	4	56.8	4
Oceania	**to Canada**	113.8	5	177.7	5	136.0	5	144.2	5
EU	**to Canada**	199.4	6	178.9	6	198.3	6	245.4	6
Africa	**to Canada**	277.4	7	1,029.9	7	1 436.8	7	1 069.9	7
Europe	**To Japan**					0.3	2	0.3	1
North America	**To Japan**					0.5	3	0.5	2
Africa	**To Japan**					0.0	1	1.1	3
C&S* America	**To Japan**					0.8	4	1.5	4
Oceania	**To Japan**					3.9	5	5.7	5
Asia	**To Japan****					6.6	6	12.5	6

* Central and South
** 2001 detention figures used are an average 12 month period in Apr 2000-Oct 2001, 2002 figures are from Nov 2001-Oct 2002.

exports to Japan. The poorest performer by some margin in exporting to the EU is Asia, exacerbated in later years by the veterinary drug issue referred to earlier. It is also the poorest performer in exports to Japan. However, Asia outperforms both Oceania and the EU in exporting to Canada, though it still only performs moderately. Central and South America perform very well in exports to Canada but less well when exporting to the EU and Japan. North America is consistently a top-performing exporter.

It is not easy to determine the significance of these differences or what has caused them. As noted above, there seems to be a tendency for countries or regions exporting the smallest absolute quantities to have more border cases per unit volume. This certainly applies in the case of exports to Canada, though not in order. However, it does not apply to the EU. Oceania is the smallest exporter to the EU market but is one of the top performers with the lowest frequency of border cases. Neither does the pattern apply to Japan, where Asia is the largest exporter but also a poor performer.

Further research to establish why these differences occur may give misleading results because of the overriding influence of two factors: importing nations use different procedures (sampling plans, analytical techniques, type of defect) and/or criteria on imports; and the products exported differ from one importing region to the other. This again highlights the importance of having the rules of importation harmonized, both in terms of their governing legislation and how they are applied. Harmonization would benefit international trade and ultimately consumers.

Economic implications of border cases

Costing the impact of products of substandard quality and dubious safety would be of interest to producers, processors, quality control authorities, and consumers, as well as to governments, donors, public health authorities, and development agencies. The economic losses incurred because of fish spoilage, product rejections, detention and recalls, and the subsequent adverse publicity for an industry and even a country are substantial. So are the human health related costs. Billions of dollars in medical expenses stem from fish-borne illnesses and the loss of productivity of those infected causes large indirect costs to the community.

Risk managers, when weighing different mitigation strategies, need economic data to assess the cost effectiveness of the different options presented to them. Currently, the detention/rejections data, as they are generally collected cannot be exploited to assess the cost of border cases. It is important to have access to such information in future.

The following is an attempt to estimate the cost of border cases in Japan using data available on the Ministry of Health, Labour and Welfare (MHLW) website[4]. Similar data were not available from the other importing countries. Table 2 estimates the total volume of Japanese border cases at 255.2 tonnes and 490.6 tonnes respectively for 2001 and 2002. These represent a small fraction (respectively 0.0083 percent and 0.016 percent) of total imports to Japan in 2001 and 2002. They were valued at US$1 159 870 and US$2 230 465 (or 0.009 percent and 0.017 percent of total import values) respectively for 2001 and 2002. For the period 2001-2002, the average export revenue lost was estimated at US$4 546 per tonne detained and US$10 000 per border case.

The revenue lost to exporting companies when consignments are rejected are, as a rule, much greater than the costs of preventive practices that would have enabled the concerned companies to avoid these border cases. This affirmation is based on several studies, compiled by Cato (1998)[5], which estimated the costs of implementing Good Management Practices (GMP) and Hazard Analysis and Critical Control Point (HACCP) systems. In the United States of America, 1995 cost estimates of HACCP implementation for seafood processing plants averaged US$23 000 in the first year and US$13 000 per year for subsequent years. As HACCP was introduced, prices for seafood were estimated to increase by less than one percent in the first year and less that 0.5 percent in subsequent years with the larger cost increase expected to decrease consumption by less than 0.5 percent.

TABLE 2
Estimates of volumes and value of border cases for Japan

Product type	Import			Border cases		
	Volume (tonnes)	Value (US$ million)	Unit cost (US$/tonne)	Number	Volume (tonnes)	Value (US$)
2001						
Fresh fish	375 000	1 849	4 931	16	35.2	173 571
Frozen	2 344 000	8 647	3 689	84	184.8	681 727
Canned	281 000	1 786	6 356	4	8.8	55 933
Cured	34 000	320	9 412	11	24.2	227 770
Live	37 000	351	9 486	1	2.2	20 869
Total 2001	3 071 000	12953		116	255.2	1 159 870
2002						
Fresh fish	329 000	1 603	4 872	15	33	160 776
Frozen	2 362 000	8 730	3 696	174	382.8	1 414 829
Canned	353 000	2 033	5 759	4	8.8	50 679
Cured	36 000	329	9 139	28	61.6	562 962
Live	38 000	356	9 368	2	4.4	41 219
Total 2002	3 118 000	13 051		223	490.6	2 230 465

[4] http://www.mhlw.go.jp/english

[5] Cato, J.C 1998. Economics of HACCP. FAO Fisheries Technical Paper No 381. Rome. Italy

Other studies carried out in the United States of America estimated the costs of implementing the HACCP-based Model Seafood Surveillance Program (MSSP) in the United States crab industry at US$3 100 per plant or US$0.04 per kilogram, representing 0.33 percent of processor price. Compliance costs were estimated at US$6 100 per plant. Investment costs averaged US$3 200 for large plants and US$1 700 for small plants. All in all, added cost per kilogram of product for compliance was US$0.02 for small plants and insignificant for large plants. For molluscan shellfish (oysters, mussels, clams), these costs were estimated at US$5 500 per plant. Annualized compliance costs per kilogram were estimated at US$0.11 for small plants and US$0.01 for larger plants.

In Bangladesh, plant upgrades and implementing HACCP for the shrimp industry were estimated to cost between US$0.26 and US$0.71 per kilogram of product and between US$0.03 and US$0.09 for its maintenance. Those were higher than the figures estimates in the United States of America, mainly because the Bangladesh shrimp industry had to start from scratch and it also had more small and medium sized enterprises than the United States of America. It is well established that in the fish processing industry economies of scale lower the costs of safety and quality systems. Even though the costs appear high, they represent only 0.31 percent (implementation) and 0.85 percent (maintenance) of the 1997 product price. [6]

More importantly, the cost of installing and operating HACCP systems remains very low in comparison with the revenue lost by exporters in border cases, estimated at US$4.55 per kilogram on average. Indeed, the per kilogram costs of implementing and maintaining HACCP or HACCP-based systems represents between 1.46 percent and 3.4 percent (for the United States of America) or 6.45 percent to 17.6 percent (for Bangladesh) of the revenue lost in border cases. Furthermore, as noted above, these revenue losses are only the tip of the iceberg. The cost of transportation, the resulting adverse publicity, the requirements for systematic physical checks of subsequent shipments, the loss of client confidence, the loss of market share, market diversions, loss of momentum, decreased prices, and reduced capacity due to temporary or permanent closures, are certainly additional costs with far reaching impacts, albeit difficult to quantify.

CONCLUSIONS

The FAO study outlined above detailed the regulations governing imports into the EU, United States of America, Japan and Canada, and analysed the available data on border cases (detentions, rejections, re-exports, etc.) in the same countries or regions.

The study highlighted the need to harmonise the procedures and methods used to govern imports. Safety and quality control systems need to be based on risk assessment, especially where consumer safety is in question, and any actions taken should be communicated to all interested parties in a manner that is unambiguous, transparent, and accessible.

Governments and industry can and should help to facilitate trade in fish and fish products by improving border control systems including by augmenting border control data collection and dissemination. Promoting harmonization and equivalence among fish trading partners will help to minimise the use of safety and quality standards as technical barriers to trade, and help to improve overall export performance. The current multitude of approaches to border controls imposes significant costs on exporters, in particular those in developing countries where there is a limited capacity to adapt safety and quality control systems to a range of market requirements. Further work needs to be undertaken in this important and not well studied part of international trade.

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[6] Cato, J.C and C.A. Lima Dos Santos. 1998. EU 1997 Safety Ban: the economic impact on Bangladesh shrimp processing. Marine Resource Economics. 13: 215-227.

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