

codex alimentarius commission

FOOD AND AGRICULTURE
ORGANIZATION
OF THE UNITED NATIONS

WORLD HEALTH
ORGANIZATION

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ALINORM 83/18

CODEX ALIMENTARIUS COMMISSION
Fifteenth Session 1983
Rome, 4-15 July 1983

REPORT OF THE FIFTEENTH SESSION OF THE
CODEX COMMITTEE ON FISH AND FISHERY PRODUCTS

Bergen, Norway, 3-8 May 1982

INTRODUCTION

1. The Codex Committee on Fish and Fishery Products held its Fifteenth Session in Bergen, Norway, from 3-8 May 1982 by courtesy of the Government of Norway. Dr. O.R. Braekkan, Norway, was chairman of the Session.
2. The participants were welcomed by Mr. Viggo Jan Olsen, Deputy Director-General of Fisheries, who, speaking on behalf of the Director-General of Fisheries, Mr. H. Rasmussen and the Minister of Fisheries, Mr. T. Listau, briefly reviewed the accomplishments of the Committee which had completed work on thirteen important standards and eight codes of practice for fish and fishery products. He emphasized that this had only been achieved by world-wide expertise and participation and wished the Committee success with the standards and codes of practice to be examined at the present session.
3. The Chairman also welcomed participants from the People's Republic of the Congo who were attending the Session of the Committee for the first time.
4. The Session was attended by Government delegations and observers from the following 32 countries: Argentina, Australia, Belgium, Brazil, Canada, Congo R.P., Cuba, Denmark, Finland, France, Germany Fed. Rep. of, Iceland, India, Ireland, Italy, Japan, Mexico, Netherlands, New Zealand, Nigeria, Norway, Philippines, Portugal, Spain, Sweden, Switzerland, Thailand, United Kingdom, United States of America, Uruguay, Yemen Arab Rep. and South Africa (Observers).

Observers from the following International Organizations were present: Association des Industries de Poisson de la CEE (AIPCEE), Association of Official Analytical Chemists (AOAC), International Institute of Refrigeration (IIR), Marinalg International.

The list of participants, including officers from FAO and WHO is contained in Appendix I to this Report.

ADOPTION OF THE AGENDA

5. The Committee adopted the agenda with a slight amendment to discuss a point which had been raised by the Observer of South Africa with regard to a proposed amendment to the Codex Standard for Quick Frozen Lobster (CAC/RS 95 (1978)). The Committee also agreed with a proposal by the Delegation of Norway to form a working group to discuss the definitions of bone defects etc. in Quick Frozen Fillet Standards in general when considering the harmonization of Codex Standards for such products.

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APPOINTMENT OF RAPORTEURS

6. On the proposal of the Chairman Mr. I.M.V. Adams (United Kingdom) and M.lle F. Sudan (France) were appointed as rapporteurs to the Session.

STATEMENT BY THE REPRESENTATIVE OF WHO

7. The Representative of WHO, speaking on behalf of WHO expressed his appreciation to the Norwegian Government for acting as host to the meeting.
8. The great importance that WHO attached to the work of the FAO/WHO Codex Alimentarius Commission had been stressed once again by the Director-General of the World Health Organization, Dr. Mahler, during his opening address to the 14th Session of the Commission in Geneva. The full text of his address was published in the Report of the Session (ALINORM 81/39, Appendix II).
9. Different programmes of the Organization (Veterinary Public Health, Food Safety Programme, Diarrhoeal Diseases Programme, Nutrition, International Programme on Chemical Safety) were involved in food hygiene activities which include "conditions and measures necessary for production, processing, storage and distribution of food designed to ensure a safe, sound, wholesome product fit for human consumption" (4th Edition of Procedural Manual of CAC, 1976).
10. During the last year the Veterinary Public Health Department had continued, together with FAO, its activities oriented towards the needs of developing countries. In particular, the Joint FAO/WHO Mission visited Rwanda and Kenya and were informed of the existing local slaughtering techniques and meat hygiene in rural conditions. A series of discussions took place with both the national veterinary and medical authorities in these countries and, in particular, were concerned with the preparation of guidelines for the design and construction of simple slaughter facilities in austere conditions and on slaughter, meat handling and meat inspection in these conditions. These guidelines were now in preparation and it was hoped to have the first draft ready within the next few months.
11. Two practical guidelines had been issued by the Veterinary Public Health Department of WHO on Echinococcosis/Hydatidosis Surveillance, Prevention and Control and on Human Health Risks Associated with Animals in Urban Areas and many others were under preparation.
12. A first draft of the WHO guide on Paralytic Shellfish Poisoning (PSP) had been prepared by Dr. Halstead. This guide was directed towards the prevention of outbreaks resulting from PSP and contains data on the public health significance of this poisoning, chemical and physical properties of the toxins and principles of the organization of surveillance, prevention and control.
13. The guide had been distributed for comments throughout the world and it was planned to publish it this year.
14. A short consultation would take place in Geneva (1-4 June) to elaborate the first draft of the Guidelines on Salmonellosis (Prevention and Control). In this guide, special attention would be paid to decontamination of feedstuffs including fishmeal.
15. Many representatives from developing countries of the Mediterranean region, medical and veterinary authorities attended the WHO Expert Consultation on Intersectoral Coordination in Food Hygiene Programmes held in Lisbon from 16-18 November 1981. This meeting, organized by the Mediterranean Zoonoses Control Centre, stressed the great importance of the Joint FAO/WHO Food Standards Programme, the purpose of which was to protect the health of consumers and to ensure fair practice in trade and declared that it fully met the requirements of the country representatives at this meeting.
16. In accordance with the decision of the 11th Session of the Codex Committee on Processed Meat and Poultry Products, an informal WHO consultation on the revision of the

Recommended International Code of Hygienic Practice for Processed Meat Products was held in Geneva from 17-18 March 1981.

17. The draft of the revised code in which the hazard analysis critical control points concept was incorporated had been translated into French and Spanish and sent for comments. The code would be considered further by the Codex Committee in October this year.

18. The Department had maintained close contact with the International Commission on Microbiological Specifications for Food (ICMSF). This year the Commission held its annual meeting in Switzerland during which time they discussed the revision of Book 2 (Sampling for Microbiological Analysis). A new version of this book was planned for publication in 1983.

19. In connection with microbiological criteria for foods, the Report of the FAO/WHO Working Group on Microbiological Specifications for Dried Milk and Natural Mineral Waters (Washington, 1980) was issued in English, French and Spanish.

20. This Working Group amended the document on the General Principles for the Establishment and Application of Microbiological Criteria for Foods which was later finalized by the Codex Committee on Food Hygiene at its 17th Session (ALINORM 81/13) and adopted by the Commission at its 14th Session. The document was available and it was decided that the text would be included in the future edition of the Procedural Manual of the Commission, and because of the urgent need for the document that it should also be prepared separately and distributed as soon as possible to the countries.

21. With regard to microbiological specifications for pre-cooked frozen shrimps and prawns the Committee had requested member governments to collect the needed data on the numerical limits of the proposed criteria, both at the production level (only in plants known to be producing in accordance with the hygienic provisions of the relevant Code of Practice) and if possible at the point of import.

22. Seven governments had provided comments, but unfortunately, the precise requirements requested were not followed in all cases, making summarization and comparison of results difficult. Nevertheless, Mr. S. Garrett (US), Director, National Laboratory of Marine Fisheries Service, had on behalf of FAO and WHO provided an excellent analysis and summary of data received which would be discussed during the Session.

23. WHO continued its training activities in the field of food hygiene. At the beginning of this year the second informal consultation on post-graduate training in food microbiology took place in Zeist from 12-13 January 1982. At the present time the Organization was coordinating four courses on this subject at the University of Surrey, United Kingdom; Pasteur Institute in Lille, France; FAO/WHO Collaborating Centre for Research and Training in Food Hygiene and Zoonoses (Berlin West), and the Food Technological Institute in Zeist, the Netherlands.

24. During discussion with the Directors of the above-mentioned courses it was stressed that an explanation of the Codex Alimentarius activities should be included in the programme of the courses and students should be introduced not only to the general work performed in this field but also to Codex Codes of Hygienic Practice and Codex Standards, microbiological specifications, etc.

25. In 1981, the Veterinary Public Health Department actively coordinated and participated in the training courses on zoonoses for students from developing countries in Moscow, USSR. In particular, a lecture was given on prevention and control of foodborne diseases, including a detailed explanation of the objectives and scope of the Codex Alimentarius Commission's activities.

26. The FAO/WHO Collaborating Centre had already published the first report on the WHO European Surveillance System which was available at the FAO/WHO Collaborating Centre for Research and Training in Food Hygiene and Zoonoses, Institute for Veterinary Medicine, (Robert von Ostertag Institute), Thielalle 88/92, Berlin (West).

27. Fuller information on the activities of WHO in the field of food hygiene (particularly concerning the WHO Food Safety Programme and the International Programme on Chemical Safety) could be obtained from the Report of the 14th Session of the Codex Alimentarius Commission (29 June to 10 July 1981).

STATEMENT BY THE REPRESENTATIVE OF THE FAO FISHERIES DEPARTMENT

28. The Representative of FAO Fisheries Department informed the Committee of the relevant activities of the Fishery Industries Division that had taken place since the last session. Over the last two years the efforts of the Division have been focused on training in the field of fish technology and quality control. Training courses on these subjects had been organized in Lima (Peru, 1980), Georgetown (Guyana 1981) and Manila (Philippines, April 1982). With continuous support from DANIDA, four more courses would be organized in Africa (3) and Asia (1) within the next two years.

29. Visual aids were in continuous preparation and filmstrips on salting and retailing of fish in tropical countries were available from FAO. Further filmstrips on artisanal smoking and drying were in preparation.

30. The problems of handling and utilizing of edible by-catch discarded during shrimping were discussed during the FAO Technical Consultation on Shrimp By-Catch Utilization held in Georgetown (Guyana) in October 1981. A strategy for utilization of shrimp by-catch had been elaborated and was available as FAO Fisheries Circular No. 745.

31. Following the successful operation of INFOPESCA, the FAO Regional Fish Marketing Project for South America, a similar project has been established for Asia with headquarters in Kuala Lumpur (Malaysia). Its full name was "Marketing Information and Advisory Service for Fish Products in the Asian/Pacific Region", abbreviated to INFOFISH.

32. There was a significant increase in the importance of FAO Regional Cooperative Programmes in Fish Technology. Programmes had been set up for Asia, Africa and South America with the aim of coordinating research programmes and strengthening cooperation between institutions working in the field of fish technology in developing countries. Within the framework of these programmes, two meetings had been held. Firstly, the FAO Expert Consultation on Fish Technology in Africa, held in Casablanca (Morocco) from 7-11 July 1981 and secondly, the Symposium on the Production and Storage of Dried Fish which took place in association with the 5th Meeting of the IPFC Working Party on Fish Technology and Marketing in Serang (Malaysia) from 2-5 November 1982.

33. The Committee was informed of the new publications available from FAO. They were "Guidelines for Chilled Fish Storage Experiments" (FIIU/T 210), "Refrigerated Storage in Fisheries" (FIIU/T 214), "Planning and Engineering Data: Fresh Fish Handling" (FIIU/C 735), "Prevention of Losses in Cured Fish" (FIIU/T 219), "The World Supply and Demand Picture for Canned Small Pelagic Fish" (FIIU/T 220) and "Minced Fish Technology: A Review" (FIIU/T 219), "Markets for frozen small pelagic fish" (FIIU/T 221).

34. The Fisheries Industry Division of FAO had also prepared "Reference Manual to Codes of Practice". Eleven codes of practice were collected by combining certain parts and provisions common to all or a majority of them. The purpose of this Manual was to provide the reader with a concise overall knowledge of provisions and requirements for various fish harvesting, handling and processing operations. A first draft was available for comment on its progress.

REVIEW OF MATTERS RELEVANT TO THE COMMITTEE AS DISCUSSED BY THE CODEX ALIMENTARIUS COMMISSION AND VARIOUS CODEX COMMITTEES

Codex Alimentarius Commission (14th Session - ALINORM 81/39)

35. The Commission noted that the following Draft Codes of Practice had been examined both by this Committee and the Codex Committee on Food Hygiene and that no Government

comments had been received at Step 5 of the Procedure.

- Draft Code of Practice for Minced Fish
- Draft Code of Practice for Crabs

The Commission agreed to advance them to Step 6 of the Procedure.

Amendments to the Codex Procedure for the elaboration of World-Wide and Regional Standards

36. A proposed revised procedure for the elaboration of Codex Standards had been discussed both by the Executive Committee and by the Codex Committee on General Principles. The Commission adopted the new procedure (ALINORM 81/13, paras 157-165) and decided that it would be published in the Fifth Edition of the Procedural Manual.

37. The revised procedure was aimed at shortening the time needed to develop standards while safeguarding the opportunity for member governments and the Commission to examine and approve standards and codes. In essence there were now 8 rather than 11 Steps.

38. The new procedure allowed the adoption of a draft standard as a Codex Standard at Step 8 and this would be the procedure to be followed by the Committee in elaborating their future standards.

Definition of "Smoke"; introduction of Step 9 amendments to the Code of Practice for Smoked Fish

39. The Commission noted that the Codex Committee on Food Additives (CCFA) as requested by the Thirteenth Session of the Commission had considered the definition of "Smoke" in the Code of Practice for Smoked Fish (Section 2.23) so as to exclude the use of sawdust containing extraneous materials such as plastic.

40. The CCFA had submitted the following amended definition to the Commission.

41. "Smoke" means volatile products derived from the combination of wood (including sawdust) or woody plants in the natural state, excluding wood or plants which have been impregnated, coloured, gummed or painted or treated in a similar manner. The raw material used for the generation of smoke shall be free from extraneous material such as plastic. The term "smoke" shall include derivatives obtained by condensation or absorption of smoke in a suitable food grade liquid. A dip which will impart a smoky flavour to fishery products can be prepared by diluting an appropriate quantity in potable water.

42. The Commission adopted the definition of smoke submitted by the CCFA as an amendment to the Code of Practice for Smoked Fish.

43. The Committee noted nevertheless that the Delegations of the Federal Republic of Germany and Austria had expressed concern at the inclusion of smoke fluids in the definition of smoke and proposed that the matter be raised at this session of the present Committee.

44. In the short discussion that followed the Committee noted that in addition to the definition of smoke under 2.23 there was also a definition of liquid smoke under 2.17.

45. The Delegation of the Federal Republic of Germany thought that a distinction should be drawn between smoking and the use of smoke components dissolved in liquids. In its opinion the latter could not be defined as smoking.

46. The attention of the Committee was also drawn to a possible difficulty on the definition of smoke as a food additive since its components were variable and could not be quantified.

47. The Committee noted that the essential point concerning the exclusion of extraneous products from the raw material had been covered in the new definition proposed by the CCFA

and agreed to the new text with an editorial amendment to refer to the "combustion" of wood and not "combination" and to the practice of producing smoke by frictional heat as well as combustion.

48. The following change was agreed; "Smoke means volatile products derived from wood (including sawdust) or woody plants in the natural state by combustion or friction ... etc.

49. The Committee also noted that the Guide to the Safe Use of Food Additives, Second Series CAC/FAL 5-1979 had already approved smoke flavours (natural smoke solutions and their extracts) for use in canned sardines and sardine type products as limited by G.M.P. and that the same recommendation would probably be made for other Fish and Fishery Products.

MATTERS ARISING FROM OTHER COMMITTEES

Codex Committee on Food Labelling (CCFL)

50. The above Committee at its 15th Session had, after detailed discussion referred the Draft Guidelines for Date Marking for Use in Codex Committees to the Commission which had adopted them after further examination at its 14th Session. It had also advanced the Revised Draft General Standard for the Labelling of Prepackaged Foods which would include the provisions for date marking derived from the Guidelines for Date Marking, to Step 6 of the Procedure.

51. The CCFL agreed that there was a need for several types of date marking statements as set out in the Guidelines for Date Marking of Prepackaged Foods. There was also agreement that significant emphasis should be placed on the date of minimum durability and it should always be given first consideration when establishing date marking provisions. Justification must be presented to the CCFA not only in cases where no date marking was proposed but also in cases where the date of minimum durability was not chosen.

Codex Committee on Methods of Analysis and Sampling (CCMAS)

52. The above Committee had in recent sessions undertaken a reclassification and definition of Codex Methods of Analysis. Essentially the concept of Codex Methods as referee methods for use in case of international dispute had been replaced by a classification of methods as analytical reference methods which were defined in terms of their reliability, based on the extent to which they had been collaboratively studied for Codex purposes.

53. The CCMAS recommended, in the light of new developments in analytical methods and the above redefinition of methods for Codex purposes, that:

- "(a) Before the next meeting of the Codex Committee on Methods of Analysis and Sampling (CCMAS) all Commodity Committees report on the necessary measures taken to update all analytical methods elaborated, recommended or endorsed by them, prior to 1 January 1979. Details of all supporting collaborative studies should be supplied. Methods endorsed after 1 January 1979 should be reported upon at a subsequent meeting of the CCMAS;
- (b) Commodity Committees should report on all methods where it is recommended that no update should occur. This would include instances where no further work on such methods was known or where an earlier or traditional method was considered adequate, and in these cases, the facts should be reported;
- (c) Where recommendations are for updating to a later edition of a printed volume, journal or series, the Commodity Committees should ensure that the latter reference is to the same method and is identical except for editorial revisions, otherwise supplementary collaborative studies should have been conducted. These studies should be reported; and

(d) Commodity Committees should also report on the availability of sampling plans necessary for the analysis of materials with which they are concerned. The Commodity Committees should also report where such plans do not exist, or where their use has not been considered necessary to date."

54. The Committee noted that the above recommendations of the CCMAS required extensive study and no action could be pursued at its present session.

55. Any revision of the methods would require the appointment of a Working Group which could meet between sessions and prepare a document for consideration by the Committee at its next session.

56. The Committee noted the background documents CX/MAS 81/7 and CX/MAS 81/7, Add. I, prepared by Australia, listing all methods of analysis contained in Codex Draft Standards and Recommendations on how methods of analysis might be reviewed, would materially assist the Working Group.

Codex Committee on Vegetable Proteins (CCVP)

57. At its Second Session the CCVP had studied a paper entitled "The Utilization of Vegetable Protein Products in Foods, and Labelling Considerations" (CX/VP 82/8), prepared by the Canadian Delegation. The Canadian Delegation indicated that the objective of the paper was to introduce guidelines for the safe and suitable use and appropriate labelling of vegetable protein products (VPP) in foods. The paper dealt with such matters as (i) uses of vegetable protein products for functional purposes; (ii) uses of vegetable protein products to increase content of utilizable protein; and (iii) uses of vegetable protein products in substitution for and extension of animal protein in foods. Proposed Draft Guidelines for the utilization of VPP in Foods accompanied by Proposed Draft Guidelines for Testing Safety and Nutritional Quality of Vegetable Protein Products, were appended to the paper. The latter was a modified version of the Protein Calorie Advisory Group of the United Nations Guideline (PAG Guideline No. 6) for preclinical testing of novel sources of protein.

58. The guidelines for the use of VPP in foods being developed by the CCVP were general guidelines which were intended to be of assistance to those Codex Commodity Committees which were, or were likely, to be developing standards for products containing VPP. They were also intended to be of assistance to Member Governments generally.

59. CCVP agreed that the Joint FAO/WHO Committee of Government Experts on the Code of Principles concerning Milk and Milk Products (The Milk Committee) and the Codex Committee on Fish and Fishery Products should be informed about the development of these guidelines. The Delegation of Denmark indicated that the guidelines would also be brought to the attention of the Codex Committee on Processed Meat and Poultry Products.

60. CCVP agreed to recommend to the Commission that the guidelines be developed in accordance with the Step Procedure for the Elaboration of Codex Standards and agreed to regard the guidelines as being presently considered at Step 2. It then examined the guidelines in detail advanced both the guidelines and the appendix for testing safety and nutritional quality to Step 3.

61. The Committee was informed that the Milk Committee had met the week preceding the present session and had noted that the CCVP was, in accordance with its terms of reference, developing guidelines for the use of Vegetable Proteins only, and that the Codex Committee on Processed Meat and Poultry Products had, in agreement with the Codex Alimentarius Commission, begun work on Guidelines for the use of Vegetable Proteins in Processed Meat and Poultry Products. Neither Committee was considering the use of Milk Proteins in Food Products.

62. After some discussion the Milk Committee had decided that these products also required Guidelines for their use and agreed that Governments should be asked to express

their views on whether the development of such guidelines should be undertaken within the Milk Committee. If Government opinion was positive the IDF and other competent bodies within the Milk Committee would be asked to prepare Draft Guidelines for the use of Milk Proteins in Food Products for consideration at its next session.

63. The Committee noted that as yet the use of extraneous proteins in fish and fishery products had not yet been examined in any detail. It agreed that if it were decided that guidelines for the use of non-fish proteins in fish products should be developed in the future then such guidelines should be elaborated within the Codex Committee on Fish and Fishery Products.

Codex Committee on Food Additives (CCFA)

Standards for Food Grade Salt

64. The Committee noted that CCFA preferred to elaborate one general standard for food grade salt which would not preclude the establishment of other requirements deemed necessary for particular kinds of salts and with special food manufacturing methods. The standard was presently at Step 6 of the Codex Procedure. Since the CCFA was holding another session before the meeting of the 15th Session of the Commission it was expected that the standard for food grade salt would be adopted by the Commission before the next session of this Committee.

65. The Committee recalled the discussions at its last session (ALINORM 81/18, para. 57) and expressed its opinion that the standard for food grade salt which the CCFA was elaborating might not be suitable for salting of fish and might need to be modified. A different quality of salt for fish salting might be necessary.

Sampling Methods for Contaminants

66. The CCFA was presently elaborating sampling plans for the determination of contaminants as contained in Conference Room Document CX/FA 82/8. The CCFA expressed its desire that the sampling plans be commented upon by all the Codex Commodity Committees.

67. The Committee deferred discussion of the sampling plans until its next session when it would have available the Government comments which had been requested.

Carry-over Principle

68. The Commission at its 13th Session (ALINORM 79/28, para. 155) requested the Codex Commodity Committees to ensure that all standards that it had elaborated should include reference to the Carry-over Principle as and where appropriate and suggested the exact wording to be used in applying the carry over principle.

69. The Committee concluded that the action needed to be taken by it in response to the Commission's request would mean a careful study of all the standards it had developed and a decision on a case by case basis whether the carry-over principle applied or not. The Committee agreed to carry out this exercise at its next session when the adequate background documentation needed would be available from the Secretariat.

Guidelines for the Establishment of Food Additive Provisions in Codex Standards

70. The Committee noted that CCFA was elaborating guidelines for use by the Codex Commodity Committees when making provisions for food additives in the standards that they would be elaborating.

Third Session of the Codex Coordinating Committee for Asia

Amendment to the Standard for Canned Sardines

71. The Committee noted the proposal of the Coordinating Committee for Asia to amend the standard for Canned Sardines to include Sardine Sardinella in Section 2.1(a) of the Standard and agreed to consider the proposal when the required information as outlined in para 111 of ALINORM 79/18 was provided to it by the Coordinating Committee.

Codex Committee on Food Hygiene (CCFH)

72. There was some discussion on the definition "lot" and on the need to align the definition of lot in different Codes of Practice since it should be possible to achieve uniform texts.

73. It was also thought that further consideration should be given to sampling lots. In view of the work on the definition of "lot" in progress in other Committees it was agreed that the Secretariat would collect all relevant information summarizing the definitions of "lot" and related matters for the next session of the CCFH.

General

Publication of Codex Standards

74. The Committee noted that several volumes of Codex Standards were in preparation in loose-leaf form and would be issued in the near future.

Amendments to Standards

75. The Committee noted that at its last session (see ALINORM 81/18 paras 43-45) it had been decided as a temporary economy measure to suspend the usual practice of examining amended standards in reports at the adoption stage.

76. The Committee was informed that because of the concern expressed by delegates that this would adversely affect its work, the decision had been rescinded. As a consequence the usual working practice would be resumed at this session.

77. The Committee expressed its satisfaction at the decision.

Acceptances

78. As indicated at the last session some 30 countries had given acceptance to one or more of the Codex Standards for Fish and Fishery Products. The published "Summary of Acceptances of Recommended World-wide and Regional Codex Standards and Recommended Codex Maximum Limits for Pesticides" (Ref. No. CAC/Acceptances-Rev. 1) which had been sent to all Member Governments contained full details of all acceptances notified up to 30 October 1978. The reports given at the 13th and 14th Sessions of the Commission showed that Argentina had notified acceptance with specified deviations of the standards for Quick Frozen Fillets of Cod and Haddock, Quick Frozen Fillets of Ocean Perch, Quick Frozen Fillets of Hake, Quick Frozen Lobsters, Quick Frozen Shrimps or Prawns, Canned Sardines and Sardine type products and had also found many of the Codes of Practice, including those for Shrimps and Prawns and for Canned Fish and Fresh Fish to be acceptable.

79. Gambia has notified target acceptance of the Codex Standards for Quick Frozen Fillets of Hake, Canned Sardines or Sardine type products and Quick Frozen Lobsters.

80. The U.S.A. had formalized the acceptance with specified deviations of a number of Commodity Standards including Canned Pacific Salmon.

81. In its review of acceptances the Commission noted that the consideration of acceptance of a wide range of Codex Standards and Codes of Practice and Codex Maximum Limits for Pesticide Residues was under active consideration in many countries. It was satisfied that there was clear evidence of steady progress regarding Codex Standards but considered that countries should give more attention to acceptances.

82. In particular, the Commission recommended that where a country was unable to give acceptance it should give serious consideration to the possibility of allowing free distribution of foods in conformity with Codex Standards. In addition to its notification of acceptance the U.S. had for instance also notified non-acceptance, but with the qualification that some products complying with the Recommended International Maximum Limits might be distributed freely within the territorial jurisdiction of the U.S.A. In other cases, products complying with the Recommended International Maximum Limits might be distributed under certain conditions within the territorial jurisdiction of the U.S.A.

83. Similarly Canada had indicated that it was unable to accept the Codex Standard for Cocoa Powder and Dry Cocoa Sugar Mixtures (CAC/RS 105-1978, issued for acceptance in May 1980) but that products conforming to the Standard would be permitted to be distributed freely in Canada.

Establishment of Working Groups

84. In addition to the Working Group mentioned in para. 4 the Committee established two other Working Groups, one to examine the Codes of Practice on the agenda and the Annex to the Codes of Practice for Salted Fish and the other to examine the Microbiological Specifications for Shrimps and Prawns. A small Working Group also met to examine the defects table for Canned Pacific Salmon.

REVISION OF THE RECOMMENDED INTERNATIONAL CODEX STANDARD FOR CANNED PACIFIC SALMON AT STEP 7

85. The Committee examined the above standard as contained in ALINORM 81/18, Appendix II in the light of Government comments provided in CX/FPF 82/3.

Title

86. The Committee agreed that in line with the revised procedure for the elaboration of Codex Standards and Codes of Practice (see paras 36-38) the title should now read "Revised Codex Standard for Canned Pacific Salmon".

Section 3.4.4 Bones

87. The Delegation of the U.S.A. informed the Committee that discussions at previous sessions had led to the inclusion of the requirement that "bones, when present shall be "soft" because the presence of hard bones could be construed as an indication of insufficient cooking." However, the distinction between hard and soft bones depended on subjective measurement.

88. The Delegation of the U.S.A. reported that laboratory trials on measuring bone hardness using an Effyge Dyanometer showed that a hardness value of less than 1000g was satisfactory and suggested a provision for testing by this apparatus or an equivalent pressure gauge should be included in the standard.

89. The Committee noted that the equipment might not always be readily available and that no extensive tests had so far been carried out.

90. Testing by crushing the bones between the fingers although subjective, was a reasonably accurate and simple guide as indicated by the Dyanometer tests made so far.

91. The Committee agreed that further experience was necessary for testing by dyanometer and not to amend the provision at this stage.

4. HYGIENE

92. The Delegation of France made the general comment that it would be advantageous to specify the sampling plans in verifying the hygiene quality defined in this Section.

93. Other delegations and the Representative of WHO referred to the necessity of adequate processing to destroy pathogenic microorganisms.

94. The Committee noted that this was a product covered by the Code of Hygienic Practice for Low Acid Canned Foods which now gave guidelines on time/temperature relationships for adequate sterilization. The necessary conditions were then satisfied for sub-section 4.3, which required processing conditions sufficient to destroy all spores of *Clostridium botulinum*.

95. The Committee agreed to make no change to the Section.

5.1 Name of the Food

96. 5.1.1 The Delegation of Italy was of the opinion that there should be provision in the name of the product in order to distinguish it from European salmon species. The Committee noted, however, that there was at present little or no canned European salmon on the market and made no change to the species of fish listed in 5.1.1.

Date Marking

97. The Committee noted that some delegations were of the opinion that date marking should be included in the labelling provisions and that the consumer should be informed of the limits in which the product could be sold. Others thought that because the products had a long shelf life of ten years or more, the date of minimum durability would serve no useful purpose and the consumer would be better informed if the date of manufacture was used instead.

98. The Representative of WHO, supported by the Delegation of the People's Republic of the Congo was of the opinion that the date of manufacture could also help to identify lots which were dangerous from the public health point of view.

99. The Committee noted, however, that this aspect was already adequately covered under 5.6. Lot identification, requiring that each container be permanently marked in code or in clear identifying the factory and the lot, and was in fact the system used by inspection services to trace faulty lots.

100. A number of delegations also expressed the view that because of the long shelf life of these products and because there had been no demonstration of the necessity for date marking that there should be no provision for date marking in the present standard. This would add an unnecessary extra step to the manufacturing process and consequently unnecessary extra expense to the consumer.

101. Several delegations pointed to regulations in the EEC and to the decisions of other Codex Committees when date marking had been provided for. The Committee noted that canned salmon was a low acid canned food where no interaction between can and contents would normally take place over a period of 10-15 years. It also noted that in the revised text of the Guidelines for Date Marking of Prepackaged Foods, Section 5, inspection to Codex Committees included the following:

102. "5.1 Based on a study of the nature of the food, Codex Committees shall determine the type of date marking. First consideration should be given to the date of minimum durability. If, in the opinion of the Committees this date is not appropriate for the Commodity in question, the Committee should choose from the other alternatives listed in Section 3 above. Finally they may decide that a date is not necessary".

103. After some discussion of the types of date marking listed in Section 3 of the Guidelines the Committee noted there was a good measure of agreement that none of the options mentioned would provide useful information to the consumer for this product and decided not to include any form of date marking in the present standard.

104. The Delegations of Switzerland and the Federal Republic of Germany expressed their reservations to the decision.

Net Contents

105. The Committee noted that in the opinion of the Delegation of France sampling should be made in accordance with the sampling plans in CAC/RM 42-1969. Comparison of the average net contents with the declared net contents of the container could be very advantageous to the seller when, as is often the case, the number of samples is high.

106. The Committee noted that where the Standard deviation of the net weights is very small, as with small containers, the average can be accepted provided there is no unreasonable shortage. For larger fills the situation might be different. It was also noted that a Working Group of the Codex Committee on Methods of Analysis and Sampling was studying a "moderate acceptance" sampling plan for Prepackaged Foods, but had not yet completed its work.

107. It was decided to make no change at present to the instruction for the determination of net contents.

Annex A Defects Table, Canned Pacific Salmon

108. The Committee had available a revised defects table which had been prepared by the Delegations of Canada and the U.S.A.

109. It was noted that significant changes had been made to the original table which had resulted in new figures for the classified points being placed in square brackets. The Committee noted the opinion of the Working Group that the table should be cleared during this session so that testing of the defects could be carried out in the next canning season.

110. The Committee discussed briefly the question of net content of the can. It noted that in Section 6.2 there was reference to average net content provided that there was no unreasonable shortage in individual containers.

111. The Committee was informed that the practice was to fill the can completely with fish and to seal and to cook it. It noted that in the experience of one of the importing countries, underfill was extremely rare and when it occurred, the contents almost invariably suffered in other aspects.

112. It was decided not to add a provision for inadequate fill to the Standard, but the last part of the sentence in 6.2 was transferred to Section 8.

Status of the Standard

113. The Committee decided to add the new proposed defects table to the Standard and to retain the Standard at Step 6 so that the defects table could be tested during the next canning season and the results reported at its next session.

114. It thanked the Working Group for the revision of the defects table.

Draft Standard for Quick Frozen Blocks of Fish Fillets, Minced Fish Flesh and Mixtures of Fillets and Minced Fish Flesh at Step 3

115. The Committee had available for consideration the above Draft Standard as contained in ALINORM 81/18, Appendix III and Government comments as contained in CX/FFP 82/4 and Conference Room Document CX/FFP 82/4-1 and CX/FFP 82/4-2.

1. SCOPE

116. Some delegations expressed their opinion that the scope of the standard should be

expanded to include provision both for white and brown fish. The Committee noted that whilst the scope as presently worded did not preclude the use of brown fish, the defects table in the standard (Annex D) was applicable to only white fish.

117. The Committee also noted that though there was presently no appreciable international trade in blocks made from brown fish, there could be in the near future, and considered whether it should elaborate two separate standards for white fish and brown fish. The Committee expressed its opinion that in due course the elaboration of a new defects table that could be applicable to brown fish would suffice for the purpose, since the text as it was presently written would be applicable to both. Though preparation of quick frozen blocks from brown fish was technically possible, it was felt that adequate experience was lacking in the processing of brown fish for use in frozen blocks.

118. The Committee considered the intention behind the inclusion in the scope of the standard "Intended for further processing". It appreciated that making the blocks available in consumer packs could not be considered as further processing. The Committee noted that the product was for further industrial processing but agreed, however, to leave the text unchanged.

2.1 Product Definition

119. Some delegations thought that the product definition would need to be expanded by inclusion of the species of fish that could be permitted in the standard, and referred to the Standard for Canned Sardines where such action was taken by the Committee. The Committee, however, expressed its opinion that inclusion of species of fish in the Standard would restrict developmental work for the use of other fish for making blocks and agreed not to include species of fish in product definition.

120. The Committee found it difficult to suitably define "piece" but agreed that "piece" was an integral part of fillets. It agreed to delete the words "and pieces of such fillet" from 2.1(a) and substitute "pieces" for "sections" in 2.1(b) and also delete "cut so as to facilitate packing" from 2.1(c). The Committee took the latter action since the blocks were meant only for non-retail sale and not intended to be sold as consumer packs.

2.3 Presentation

121. The Committee noted that blocks made from skin on and boneless fillets were now in international trade in considerable amounts and considered a fourth presentation "Skin on and boneless" for fillets, this however was overtaken by the restructuring of the paragraph on the suggestion of the United Kingdom.

122. Thailand informed the Committee that since it was processing only small fish it was finding it difficult to meet the standard of 25-30% minced fish flesh uniformly distributed in the block (under presentation for Fillets and Minced Fish Flesh) and proposed that it be increased to 35%. Many delegations, however, expressed their opinion that the proportion of minced fish flesh be reduced to 25% from the existing figure of 30% in the standard. It was said that this would meet consumer acceptance of the product which had been adequately established by researches on consumer preference, extending over a period of two years. Also that preparation of blocks containing more than 25% minced fish resulted in certain changes in the physico-chemical characteristics of the blocks and could give problems of a technical nature.

123. The Committee agreed to delete reference to the category of fillet and that the labelling of these categories would be covered in Section 6. Accordingly the revised version of 2.3(2)i and 2.3(2)ii would be as below:

2.3(2)i In proportions not to exceed 25% m/m minced fish flesh uniformly distributed in the block.

2.3(2)ii Other proportions containing more than 25% m/m minced fish flesh.

124. While taking such action, the Committee noted that there were differences in comparison with the Code for Minced Fish Flesh but did not change their decision since the Code had not yet been adopted.

125. The Committee agreed to make a new provision 2.3(4) "other presentations" to accommodate new presentations that might find place in international trade in the near future.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

126. The Committee agreed to delete "and pieces of such fillet" from the definition of raw material (3.1) since such wording was covered by the product definition (2.1(b)).

3.2 Optional Ingredients

127. The Delegation of the Netherlands pointed out that inclusion of sodium chloride as an optional ingredient in the standard may pose problems since the use of salt was not permitted in other fish fillet standards (e.g. Quick Frozen Fillet of Cod, Haddock and Ocean Perch). The Committee, however, expressed its opinion that there was no problem in practice since sodium chloride was only an optional ingredient and its presence was adequately covered by labelling (see 6.2.1).

128. The Delegation of Spain proposed that sugars such as glucose, at levels which could vary from 2 to 5%, (depending on the kind of fish used and consumer acceptance) be included as optional ingredients. He informed the Committee that such additions of sugar could prevent loss and degradation of the quality of protein from the quick frozen blocks. A similar proposal was also made by the Delegations of the Netherlands and Portugal, who pointed out that a mixed solution of sodium chloride and sugar could be used as a dipping solution. The Committee, however, felt that addition of sugars may reduce the protein quality of the product and found it difficult to justify immediate acceptance of the proposal. The Committee agreed to consider the proposal from Spain at its next session, on the basis of written comments justifying the inclusion of sugars as optional ingredient. The Delegation of Finland asked for opinions on the use of starch as an ingredient.

3.3 Final Product

129. The Delegations of the Netherlands and the Federal Republic of Germany informed the Committee that the blocks should be reasonably regular, not only in shape but also in weight, and proposed that the word "bones" included in 3.3.1 should be qualified by the wording "except pin bones not designated as boneless", so as to harmonize it with the defects table.

130. The Committee, however, decided to leave the present wording unchanged until it had seen the outcome of discussions in the Working Group on Harmonization of the Defect Tables, and had had an opportunity to assess the impact of the suggested changes. They accepted the New Zealand proposal to change the end of 3.3.1 to read "parasites scales and where appropriate skin and bone".

Section 3.3.4

131. Some delegations thought that with the currently available methodology, it was difficult to determine the quantity of minced fish flesh in a block with an accuracy of 5% and suggested that the section be deleted. If the sample size were small, standard deviations could be as high as 10% or more. A few delegations, however, felt that an accuracy of 5% could be achieved if sample units weighing up to a minimum of 4 kgs taken from each block to be tested were used for the determination.

132. The Committee expressed its opinion that there was a need for methods to be appropriate to the Standards and agreed to seek the comments from Governments on whether the available methodology for determination of minced fish flesh in a block would provide

an accuracy of 5% or less and if so under what conditions.

133. The Committee left the text with 5% m/m between square brackets.

4. FOOD ADDITIVES

134. The Committee agreed with the presentation of food additives separately for (i) Fish Fillet and (ii) Minced Fish Flesh. The additive ethyl gallate was deleted from the list since it had not been cleared by JECFA. Sodium isoascorbate was also deleted from the list of additives for minced fish flesh and was replaced by ascorbic acid - or its sodium or potassium salts. Two additional thickening agents, carrageenan and methyl cellulose were added to those presented for use in minced fish flesh only.

135. The Committee considered sugars, (presently in the Code of Practice for Minced Fish but listed as food additives) as an optional ingredient and did not agree on its inclusion at present.

136. The Committee noted that it had included all the phosphates as water binding agents and agreed to refer this to the Codex Committee on Food Additives to seek its opinion as to the class name suggested.

137. The Committee agreed that (i) adequate information on technological justification for the use of food additives suggested as water binding agents and thickening agents was needed, (ii) documentation should be sought from Governments on Food Additives provisions for minced fish flesh.

5. HYGIENE AND HANDLING

138. The Committee noted that in its written comments France had proposed an additional point, 5.2(d) which would state "must not contain biotoxins". At the session the Delegation of France also questioned the provisions of 5.2(b) which required that the product "shall be free from parasites which may represent a hazard to health" since the presence of all parasites was undesirable.

139. The Committee noted that the presence of parasites carried major penalties in the defects table (Annex D.6). It recognized that the two types of parasite defects were difficult to distinguish but decided to leave both section 5.2(b) and Annex D unchanged since the former allowed for control of harmful parasites when suitable methods of testing were available and the latter for the control of all visible parasites.

140. With regard to the question of the presence of biotoxins the Committee noted that there were two aspects to be considered, one was covered to some extent by the necessity expressed in sections 5.1 and 5.2 for good manufacturing practice where, for instance, badly stored fish could lead to break-down products, including histamine. The other referred to constitutive fish toxins, which the Delegation of France proposed to cover under a new section 5.2(d), these were biotoxins produced in some species which could present a hazard to health if mixed with edible fish in quick frozen fish blocks.

141. It was pointed out that the aspect was also covered under Section 3, Essential Composition and Quality Factors, where it was required that the raw material should consist of "sound fish which are of a quality fit to be sold fresh for human consumption".

142. The Committee agreed that this adequately covered the nature and quality of the fish required and decided not to add provisions under Hygiene and Handling. It also agreed to bring the discussion to the attention of the Codex Committee on Food Hygiene.

6. FOOD LABELLING

6.1.1 Name of the Food

143. The Committee agreed that the name of the food shall be declared as "x y blocks" in accordance with the law, custom, or practice of the country in which the product is distributed.

144. The Committee noted that the elaboration of Draft Guidelines for the Labelling of non-retail Containers of Foods was in progress and thought that although at an early stage of development by the Codex Committee on Food Labelling, these Guidelines were a more appropriate reference than the Recommended International General Standard for the Labelling of Prepackaged Foods(CAC/RS 1-1969). It agreed to amend the introduction to the section accordingly and to delete the further reference to the above standard in Section 6.2.1.

Master Carton

145. Some delegations were of the opinion that this term, which was used in several provisions of the section, was too narrow since it could be interpreted to exclude other containers such as pallets. There were some proposals to eliminate the term throughout the section. After some discussion it was noted that the term "freight container" was used in the proposed Draft Guidelines for the labelling of non-retail containers of foods.

146. It was decided to use this term in the provisions and to place it in square brackets pending further work on the Guidelines by the Codex Committee on Food Labelling which would meet during the week following the present session. Under 6.1.5 the Committee noted the comments of the Delegations of the Federal Republic of Germany and the Observer of South Africa and agreed to place the provision in square brackets and to eliminate reference to filleted fish. The provision was drawn to the attention of Governments for comment.

147. New Section 6.8 Identification Marking and related documents.

148. On the proposal of the Delegation of the U.S.A. the Committee decided to add this section. After some discussion the following text was proposed for inclusion within the sections in square brackets. "The information required in 6.1 - 6.6 may be supplied by the name of the food and code identification and given only in related documents provided that such a code is clearly identifiable with the related documents".

Date-Marking

149. The Committee noted that the Codex Committee on Quick Frozen Products had made an extensive study on the date-marking on Quick Frozen Foods, including some fish products, and had decided not to introduce date-marking at present.

7. METHODS OF SAMPLING, EXAMINATION AND ANALYSIS

150. Some delegations expressed the opinion that since glazing was not presently used for the kinds of fish blocks covered by the standard, Section 7.2.2 "determination of net contents of products covered by glaze" be deleted. Suitable packaging materials which inhibit dehydration and oxidation during handling and storage could be used with advantage in place of glazing. The Committee, however, noting that herring fillets were often glazed and were not excluded from the standard, agreed to retain the provision 7.2.2 and consider development of a suitable method for the determination of glaze. The Delegation of France informed the Committee that they were developing methodology for glaze determination and agreed to make available the results of the study to the Committee for discussion at its next session.

151. A proposal on the quantities of material to be used for physical and organoleptic examination made by the Delegation of the U.S.A. was agreed to by the Committee, and was introduced as Section 7.3. This proposal defined the amount of material to be used for

physical and organoleptic examination of quick frozen fish blocks. Since the weight of fish blocks that moved in international trade varied significantly, the Committee preferred to express the amount of material needed for determining the percent mince and other factors by actual weight rather than as a proportion of the block. The Committee noted that fairly reliable results were obtained for determining percent mince, when blocks weighing at least 4 kgs were used and agreed to modify the proposal of the U.S.A. accordingly, putting the figure in square brackets in the report.

152. The Committee noted that use of larger samples of the block for examination of physical defects would significantly affect the defect tables presented in Annex C and D and suggested that these should be examined by the Working Group on harmonization of defect tables in Codex Standards for Fish Fillets with a view to suggest a new classification table. The same Working Group, the Committee agreed, could also review the definition of defects as given in Annex B.

153. The Committee agreed to delete Sections 7.2.3, 7.2.4, 7.2.5 and 7.2.6 since these became redundant because of inclusion of the new Section 7.3 Quantities for Physical and Organoleptic Examination. New Sections 7.4 Determination of net contents of products covered by glaze (Method to be developed) and 7.5 Determination of proportions of fillet and minced fish in quick frozen blocks (Method to be developed) were included in the standard. Concerning Section 7.5, the Delegation of the Federal Republic of Germany drew attention to annex E in which its proposed method was already inserted at the Fourteenth Session of the Committee for comment by Governments. The WEFIA Working Group had tested this method at its April Meeting in Ymuiden and found it workable.

Status of the Standard

154. The Committee retained the Standard at Step 3 of the Codex procedure.

Draft Standard for Quick Frozen Sticks (Fish Fingers) and Fish Portions - Breaded or in Batter

155. The Committee had available for consideration the Draft Standard (ALINORM 81/18 Appendix IV) and Government comments as contained in CX/FFP 82/5 and Conference Room Documents CX/FFP 82/5-1 and CX/FFP 82/5-2.

1. SCOPE

156. The Committee noted that the main raw material used for fish portions was Quick Frozen Fish Flesh Blocks and that as the standard being elaborated included natural fish fillets they agreed on the proposal of the United Kingdom to revise the scope to read as follows:

157. "This standard applies to quick frozen fish sticks (fish fingers) and fish portions cut from quick frozen fish flesh blocks or formed from fish flesh with breaded or batter coatings singly or in combination, which are raw or partially cooked and offered for direct consumption without further processing. This standard does not apply to natural fish fillets with breaded or batter coatings".

158. This revision of the scope, so as to exclude from the standard natural fish fillet with breaded or batter coatings, led to a discussion by the Committee on whether to elaborate a separate standard for natural fish fillet with breaded or batter coatings. The Committee agreed to elaborate a standard, if the need arose.

2.1 Product Definition

159. The Delegation of the Federal Republic of Germany suggested inclusion of information on the preparation of fish sticks, but the Committee took no action and left the original text unchanged. 2.1.2 "Fish sticks" was inserted before "(fish fingers)" for consistent wording in the text.

2.2 Minimum Requirements for proportions of Fish Flesh Core

160. The Committee noted that three parameters (1) weight (2) physical dimension and (3)

nature of the material, raw or processed, significantly influenced the requirements for proportions of fish flesh core in the product. The Committee agreed to differentiate the products, as outlined in 2.2 on the basis of the nature of the material, to two classes, (i) raw products and (ii) partially cooked products, and proposed a minimum of 60% and 50% respectively for the proportions of fish flesh core present in the products. The Delegation of the Federal Republic of Germany expressed a reservation to this decision.

161. The Committee noted that the provision of minimum requirements for proportions of fish flesh core should be under Section 3. Essential Composition and Quality Factors and agreed to move it to 3.2.1 Final Product.

2.4 Presentation

162. The Committee agreed to retain this Section as it was and expressed its opinion that there was no need for inclusion of figures for percentage of declared weight of final product since this would be covered by labelling provisions.

3.1.1 The Committee agreed to change the wording from "fish flesh or minced fish flesh" to "fillets or minced fish flesh".

3.1.2 Coating

163. The Committee noted that the scope of wording of this Section was too wide and agreed to replace the word "materials" by "ingredients" and to make reference to Section 4 (food additives).

3.1.3 Frying Fat

164. The Committee's attention was drawn to para 127 of the Report of its Fourteenth Session where it agreed to the proposal of the Federal Republic of Germany to amend the Section 3.1.3 to read as follows:

165. "A fat (oil) used in the cooking operation shall be suitable for human consumption and for the desired final product characteristics. (See also section 4)".

166. The Delegation of Nigeria referred the problem of acceptance of products containing animal fat (lard) in its country, a situation which also existed in many middle eastern countries, and expressed its opinion that if pork fat were used it should be clearly labelled. The Committee noted that the problem of animal fat in commodities was of a general nature and was presently being discussed in different Codex Commodity Committees. Lack of analytical procedures for specific determination of pork fat in foods added to the difficulties for enforcement, if certain mandatory clauses regarding labelling for pork fat were included in the text. The problem could be overcome to a certain extent by labelling provisions as present in standards elaborated by the Codex Committee on Processed Meat and Poultry Products. The Committee expressed its opinion that the problem of pork fat in foods was one that was faced by many Codex Commodity Committees and agreed that the subject should be referred to the Commission so that they could provide guidance. It might be covered by acceptance with specified deviations.

Section 3.2.1

167. Some delegations expressed their opinion that since it was not possible to measure excessive dehydration (freezer burn), clause 3.2.1(d) be deleted. One delegation said that the defect outlined in 3.2.1(d) was easy to detect and measurable. Portugal suggested that the problem might be solved by including the clause under 3.2.3.

168. The Committee took note of the discussion but agreed to leave the list as it was.

3.2.6 Optional Ingredients

169. The list of optional ingredients was expanded to include cereal flour, potato flour and sodium chloride.

4. FOOD ADDITIVES

170. The Committee agreed to modify the food additive provisions for (i) fish flesh and (ii) minced fish to be in conformity with the provisions for Quick Frozen Fish Blocks.

171. The Committee agreed to extend the leavening agents 4.5 to include sodium potassium and ammonium carbonates and bicarbonates and carbamates.

172. Many delegations expressed their opposition to the inclusion of artificial colours, if colours were indeed required. Some delegations pointed out that the product under consideration was often coloured to enhance organoleptic appeal and this was a usual practice in industry. The Committee noted that the use of colours was self-limiting, influenced by (i) acceptability and (ii) cost, and recommended that the maximum level for these additive provisions be limited by GMP.

173. The Committee noted the transcription error for maximum level for sodium alginate in the product and corrected the figure to read 2.5 g/kg. Xanthan gum had a low Acceptable Daily Intake. The Committee noted that the level of the gum proposed for fish flesh and minced flesh was 5 g/kg and agreed to reduce the level for this provision in bread or batter to 5 g/kg from the existing figure of 10 g/kg. Item 4.11.16 was deleted as already included in 4.11.9. Consequential to the change in the blocks standard the additives in minced fish were treated in the same way.

5. HYGIENE AND HANDLING

174. The Committee agreed to include reference to the Code of Practice for Minced Fish under Section 5.3. 5.3.1 would read CAC/RCP 1-1969, Rev. 1.

6. LABELLING

Section 6.1.2

175. The Committee noted that many species of fish could be used in the product, and mandatory labelling to include reference to the species, or mixture of species would be difficult. The Committee agreed to change "Shall" to read "May" and removed the [].

Section 6.1.6

176. The Committee noted the inadvertent omission of section 6.1.6 and agreed to its reintroduction.

177. Section 6.1.6 would read as follows:

"Products prepared from raw material from which the pin bones are not removed shall be labelled accordingly in close proximity to the name of the food".

6.7 Date-Marking

178. The Observer from the International Institute of Refrigeration informed the Committee that in the case of most frozen foods it was clear that control of storage time was much less important as a factor in determining quality than was temperature. For this reason, undue prominence on time elapsed from the date of initial freezing, final packing or entry into a retail display cabinet such as would be given by date stamping, was seldom technically useful and could be misleading to the consumer unless an appropriate product temperature were maintained. For these and various other reasons a consensus of opinion had emerged

that open shelf life dating was counter-productive for frozen foods. Quality maintenance would be better achieved by controlling storage temperature throughout the cold chain since most products had a long practical storage life at -18°C or below.

179. Some delegations were of the opinion that some form of date-marking should be included. The Committee, however, agreed that no date-marking was necessary for quick frozen fish sticks and fish portions breaded or in batter.

6.7 Storage Conditions and Date-Marking

180. The Committee agreed that the following wording should appear under Section 6.7.

181. "Appropriate storage conditions should be given".

New 6.8 Cooking Instructions

182. The Committee noted that the product would be available both in raw and partially cooked conditions. They expressed the opinion that cooking instructions on the label would be necessary and agreed to the wording "The label should include cooking instructions" under this Section.

7. METHODS OF SAMPLING AND ANALYSIS

7.1 Sampling for Destructive Examination

183. The Committee noted that the whole subject of sampling was being reviewed by the Codes Committee on Methods and Sampling Analysis (CCMAS) and agreed to leave the text as such and to review it at its next session when the results of the review by the CCMAS would be available.

7.2 Organoleptic Evaluation

184. The Committee noted that the cooking instructions given on the label which provided information for the consumer for the preparation of the product were variable and felt that there may be a need for a standard method which would assist the food inspectors in examining the quality of the product. However, some delegations were of the opinion that the manufacturers' cooking instructions should be followed in all cases. The Committee agreed that the method of cooking, based on a procedure elaborated by AOAC and referred to in Annex A, be retained and that Government comments on this subject be requested.

Annex A - Cooking Procedure

185. The Committee noted that the conditions for fat-frying were influenced only by the depth of fat used, and agreed to delete reference to the diameter and nature of the fat fryer for raw, breaded fish portions as follows:

186. The instructions for shallow frying would read "use a frying pan with approximately 6mm (1/4") of oil, with medium heat of 175°C (350°F), cook the product for 10 mins, turning once."

187. The instructions for deep fat frying would read as "use a deep fat fryer with 5 cm (1 7/8") of oil. Preheat the fat to 175°C (350°F) and cook the product for 5 minutes". The Federal Republic of Germany noted that the cooking should also provide a uniform crispness and colour.

The Committee agreed that there was a need for an alternative cooking method to AOAC method 18.003 (1980) and agreed that the method referred by the Federal Republic of Germany in CX/FFP 82/5 be included for consideration.

Annex B

188. The Committee agreed to delete the word "distinctly" from the sections: Odour and Flavour (Cooked State) and Texture (Cooked State).

189. The Committee agreed that the definition of bones should be modified to be in line with the decision of the Working Group.

190. The Committee expressed its opinion that the whole Annex B should be reviewed in the light of the comments on the *ad hoc* Working Group and agreed to carry out the exercise at, or before, its next session after Government comments had been received.

Annex C

191. The Committee agreed to review both parts of the defect table at, or before, its next session in the light of the Report of the *ad hoc* Working Group on harmonization of the fish component defect tables in Codex Standards, and also improve the terminology present in the text, following Government comments. A section on dehydration of sticks and portions would be included.

Status of the Standard

192. The Committee decided to retain the standard as presented in Appendix IV at Step 3 of the Procedure.

CONSIDERATION OF DRAFT CODES OF PRACTICE

193. As requested by the Committee, an *ad hoc* Working Group comprising members of the Delegations of Canada, Denmark, Finland, Iceland, Ireland, the Netherlands, South Africa and a representative of FAO - Mr. Z.S. Karnicki (Rapporteur) met under the chairmanship of Mr. C.J. McGrath (Ireland). They reviewed the various Codes of Practice listed in the light of comments either received or made known by the various delegations represented.

Code of Practice for Minced Fish, ALINORM 81/18, Appendix VII

194. The Working Group comprising representatives of Canada, Denmark, Ireland, the Netherlands, Norway, South Africa and FAO reviewed the Code in the light of Government comments received from France, South Africa and the United Kingdom. These comments were adopted by the Working Group except for the following items.

1. SCOPE

195. The proposal by South Africa that the term "Minced Fish" be replaced by the name "Separated Flesh" or "Shredded Flesh" was not accepted. The Working Group thought that the name suggested conveyed a more accurate description of the product. It was thought unwise in view of the universal acceptance to date of the name "Minced Fish" and the large body of literature already in existence on the product under the name "Minced Fish", to change the name at this stage. In the circumstances the Working Group decided to refer the matter to the Committee and to recommend that the change in name proposed by South Africa be not accepted.

196. At the same time it was recognized that the definition of "Minced Fish" in the Code should be changed to take account of the point made by South Africa and the Working Group agreed to recommend that the definition at 2.22 on page 3 be revised to read as follows:

"2.22 "Minced Fish" is fish flesh produced by the mechanical separation of the flesh from bones and skin of fish, or by shredding, with a resultant loss of its integral structure".

197. In addition the proposal made by the Delegation of France, to modify the scope of

the Code to refer to the provisions of the code applying to the "flesh" of crustaceans and molluscs but to specify "flesh separated from" crustaceans and molluscs was accepted. The proposal by the Delegation of the United Kingdom that "food" in 2.12 and 2.13 on page 2 be changed to "fish" was also accepted with a further amendment to adopt "fish as food".

198. The Working Group did not accept that there was a need to define "quick freezing" and "deep freezing" in 2.19 page 3 as proposed by the Delegation of the United Kingdom. The Working Group thought that having regard to the definition of "freezing process" which was in agreement with that already adopted and incorporated in the Recommended International Code of Practice for Frozen Fish the need for these definitions did not arise.

199. Similarly the proposal to change the name "freezer store" to "cold store" in 2.17 page 3 was not accepted in view of the acceptance of the name "freezer store" in the Revised International Code of Practice for Frozen Fish.

200. The Working Group considered the problem indicated by the Delegation of the United Kingdom arising in 4.1.3.13 (page 14) and also in 4.4.5.2 (page 32). In both items there was a reference to the use of additives not listed among those permitted in the Draft Standard. It was agreed therefore to refer the matter back to the Committee for guidance with the recommendation that the difficulty could be overcome in the case of 4.1.3.13 by a change in the heading as follows:

4.1.3.13 ALL FOOD ADDITIVES USED IN THE PREPARATION OF MINCED FISH SHOULD BE STORED DRY AND IN A MANNER TO PREVENT THEIR CONTAMINATION

201. It was decided that no change in 4.1.3.13 was necessary and in 4.4.5.2 to change the text at line 4 from the top of page 32 to read as follows:

"Some correction of these changes could be made by the addition of appropriate food ingredients or additives".

202. The proposal by the delegation of the United Kingdom to change the text of 4.2.6 page 16 was agreed and the following change in the text of the last two sentences of the item was made:

"Recirculation of the solution is not recommended. Where this becomes necessary then the solution should be filtered, pasteurized and cooled before re-use".

203. The Working Group accepted the recommendation of the Delegation of the United Kingdom that in 4.2.9, page 17 it should be stated that freezer stores must be fitted with indicating thermometers, but thought that in addition the fitting of recording thermometers should be strongly recommended to take account of practical considerations in the application of the provisions of the Code of Practice in some countries.

204. The proposal by the Delegations of France and the United Kingdom to change the last paragraph of 4.4.1.2 page 24 to a more appropriate heading was agreed and it was suggested that it be added to 4.4.1.6 page 25.

205. The proposal by the Delegation of the United Kingdom to omit part of the text of 4.4.2.2 page 25 was not accepted; the change it proposed in 4.4.2.3 page 26 was, however, agreed. It was also decided to expand the text to take account of a situation not provided for as follows:

"When the fish have to be stored under ambient temperature conditions significantly larger quantities of ice are required appropriate for the ambient temperature being experienced and replenishing of ice at intervals is essential".

206. The need to change the text as suggested by South Africa in 4.4.2.12 page 28 was not agreed but an additional paragraph to provide for the problem foreseen by South Africa was accepted as follows:

"The operator of the separating machine should be instructed to discard obviously parasitized fish when observed".

207. The Working Group also pointed out that the particular matters in this review of the Code of Practice on which the wishes of the Committee were sought, were the proposal by South Africa that the name be changed from "Minced fish" to "Separated fish" or "Shredded fish", and the proposal by the Working Group to overcome the difficulty of referring to additives not listed, by omitting to make reference to them by name in the specific sections of the Code.

208. The Committee noted the following:

209. The Observer of South Africa having learnt the motivation of the Working Group's proposal agreed to withdraw its suggestion to change the name "minced fish".

4.1.3.13 All food ingredients used in the preparation of minced fish should be stored in a manner to prevent contamination and where appropriate in a dry state.

4.4.5.2 The last sentence of this Section to be omitted: "appropriate food ingredients or additives" to replace "sugars, polyhydric alcohol and polyphosphates".

Status of the Code

210. The Committee agreed to advance this Code to Step 8.

Draft Code of Practice for Crabs at Step 7

211. This was reviewed by the Representatives of Denmark, Canada, Finland, Ireland, the Netherlands, Norway, South Africa and FAO in the light of comments received from the Government of France with regard to item 4.7.9.

212. It was agreed to adopt the French proposal with a slight rewording of the text proposed as follows:

"In the case of tanks for holding crabs installed on the land a system providing for oxygenation of the water in the tank should be installed".

213. No Government comments had been received on whether the square brackets placed around Section c of item 5.4.2.6.2 on page 38 should be retained.

214. The Committee noted that the proposal by New Zealand at the last Session of the Committee to include the Red Swimming Crab - *Nectocarcinus* and the Common Swimming Crab - *Ovalipes catharus* had been omitted in the Scope of the Code. It was agreed to repair this omission. ^{1/}

215. On the proposal of the U.S.A. the Committee agreed to remove the brackets at 5.4.2.6.2(c).

Status of the Code

216. The Committee agreed to advance the Draft Code of Practice for Crabs to Step 8 of the Procedure.

DRAFT CODE OF PRACTICE FOR FROZEN BATTERED AND/OR BREADED FISHERY PRODUCTS CX/FFP 79/18 REVISION 2

217. This was reviewed by the Representatives of Denmark, Finland, Iceland, Ireland, the Netherlands, Norway, South Africa and FAO in the light of Government comments received from France, New Zealand and Poland.

^{1/} After further examination of the taxonomy of the two species mentioned, New Zealand has agreed that their addition to the Scope Section is unnecessary.

218. The validity of the points of view expressed by France and New Zealand were recognized; France on the need for a separate and more detailed document on quality control for general application to the fishery products and New Zealand on the over-elaboration of the text on requirements for quality control and the consequential excessive cost implications.

219. After careful consideration the Working Group decided to recast the Section 4.5 enclosed in square brackets and proposed a revised and somewhat more concise statement of the basic requirements for quality assurance in Sections 4.6 and 4.7. It was recognized that this was the first Code of Practice dealt with by the Committee which would provide for food components and processes apart for those for fish alone. In view of this, appropriate changes in nomenclature in the text, were made and certain minimum essential requirements were emphasized.

220. The proposed revised text was circulated for the information of the Committee and was adopted.

221. The Working Group agreed with the proposal of the Delegation of France that it would be better that the entire subject of Quality Control or Quality Assurance be the subject of a separate document that would be of universal application to the production of fishery products. This separate document would permit the subject to be dealt with in a general way throughout Codex Codes of Practice rather than a code dealing with a particular product as was the present case. The Committee was not in favour of such a proposal due to the difficulty foreseen in anticipating all possible contingencies in one document.

Status of the Code

222. The Committee agreed to advance Code of Practice for Frozen Battered and/or Breaded Fishery Products to Step 5 of the Procedure.

223. The Draft Code of Practice for Salted Fish (ALINORM 78/18A, Appendix X) with particular reference to the proposal contained in CX/FFP 73/13 of April 1979 was reviewed by the Working Group in the light of Government comments received from Iceland.

224. This document entitled "Examples of Objective Methods to Measure and Determine Final Product Quality" was prepared by the FAO Fisheries Industry Division for the information of the Committee as a review of the proposal submitted by Finland for an annex to be appended to the Code of Practice for Salted Fish entitled "Examples of Objective Methods to Measure and Determine Final Product Quality during Prolonged Storage of Salted Fish".

225. In the course of the elaboration of the Draft Code of Practice for Salted Fish, Finland had drawn attention to the desirability of including in the Code an objective method of measuring and determining final quality of the salted fish product and offered to prepare a proposal for an annex to the Code.

226. This offer was accepted by the Committee and the document now before the Committee was prepared by Finland. However, there had been further changes to the original proposal. The intention then was that this would have general application to Salted Fish but at the request of Finland, this should now apply only to Salted Herring.

227. The Working Group observed that the comments of Iceland indicated a clear divergence of views on the parameters proposed by Finland. These divergences in view were reinforced by those of workers on the subject in Denmark and in the Faroes. Arising from the comments at the Working Group meeting on the many possible variations in the product arising from the particular demands of different customers, it became evident that it would be extremely difficult to elaborate an objective method to determine final product quality applicable universally to salted herring alone rather than salted fish in general. In the circumstances the Working Group thought this proposal should be deferred.

228. At the same time it was considered proper to draw the attention of the Committee to the fact that the original proposal by Finland had generated considerable interest in the topic by scientists in the research institutes in Denmark and Iceland who are now engaged in scientific investigation of various aspects of this subject which could lead in due course to a future revival of the proposal. The work already undertaken would be of considerable benefit to the industry.

229. The Committee agreed with this point of view.

230. The Committee expressed its appreciation to the Working Group and to its Chairman for the valuable work undertaken on the Codes of Practice.

Report of Working Group on Microbiological Criteria for Pre-Cooked Frozen Shrimps and Prawns

231. As requested by the Committee an *ad hoc* Working Group composed of members of the Delegations of Canada, Cuba, Denmark, France, Iceland, India, Norway, Thailand, United Kingdom, the U.S.A., a representative of I.I.R. and a representative of WHO (Dr. A. Koulikovskii) met to continue discussion on the above subject including data collection and other relevant matters resulting from recommendations made at the 14th Session of the Codex Committee on Fish and Fishery Products (ALINORM 81/18 paras 185 to 188). The group considered the recommendation of the 2nd Joint FAO/WHO Expert Consultation (1977) on Microbiological Specifications for Pre-Cooked, Frozen Shrimps and Prawns together with the Report made by the 17th Session of the Codex Committee on Food Hygiene (ALINORM 81/13, para 33) and the general principles outlined in Appendix II (ALINORM 81/13).

232. The Working Group considered the data provided by 7 countries; Canada, Iceland, Norway, Sweden, Thailand, United Kingdom and U.S.A. in response to Circular Letter CL 1981/12 FFP which was requested by the 14th Session of Codex Committee on Fish and Fishery Products (ALINORM 81/13 paras 176-188) which represented in excess of 25,000 microbiological samples.

233. The Group concluded that advisory guidelines rather than advisory end-product specifications or mandatory standards would seem to be most appropriate at this stage in developing microbiological criteria on pre-cooked, frozen shrimps and prawns so that further experience could be gained in implementing the Code of Practice.

234. The Group further recommended that FAO/WHO Codex Alimentarius Commission monitor the implementation of the guidelines during the next three years, and make at that time a recommendation as to their suitability for conversion to an end-product specification. The practical advisory microbiological guidelines should be applied at the producing establishment after processing to monitor hygiene. These guidelines were intended to guide the manufacturer and were intended for official control purposes.

235. The Working Group considered that the way in which the guidelines were interpreted and applied in international trade to be of considerable importance and it should be done in accordance with the general principles for the establishment and application of microbiological criteria (ALINORM 81/13, Appendix II) approved by the 14th Session of the Codex Alimentarius Commission (1981).

236. The Working Group drew attention to the need for microbiological analysis to determine compliance with these guidelines, to be carried out in the producing plant, so that deviations from the Code of Practice for Shrimps and Prawns (CAC/RCP 17-1978) were detected as quickly as possible, remedial action taken and the quantity of the product not in compliance be kept to the minimum.

237. The U.S.A. suggested that the guidelines for *Staphylococcus aureus* be $n = 5$, $c = 2$, $m = 10$, $M = 100$, but it was generally agreed that standard enumeration procedures based on colony plate counts could not accurately determine numbers as low as 10 or even 100 per g. Laboratory procedures based on most probable number methods were not recommended due to their well recognized limitations. The U.S.A. felt that the guidelines for *Salmonella*

were too liberal and suggested that $n = 30$, $c = 0$, $m = 0$. However, all the other members of the Working Group were concerned at the costs involved in the destructive sampling of 30 units of product.

238. The Working Group agreed with the recommendations of the 2nd Joint FAO/WHO Expert Committee on Microbiological Specifications for Foods that the inclusion of a microbiological criterion for *Escherichia coli* offered no added benefit in deciding compliance with the Code of Practice.

239. Finally the Working Group agreed with all but one of the considered microbiological criteria for pre-cooked, frozen shrimps and prawns elaborated by the 2nd Joint FAO/WHO Expert Committee on Microbiological Specifications for Foods. The Working Group reduced the acceptance number (c) *Staphylococcus aureus* from 2 to 1 in recognition of the status of these criteria as advisory guidelines rather than as advisory end-product specifications. The Working Group recommended that the following microbiological guidelines should be annexed to the Code of Practice for Shrimps and Prawns.

Mesophilic Aerobic Bacteria

$n = 5$ $c = 2$ $m = 10^5$ $M = 10^6$

Staphylococcus aureus

$n = 5$ $c = 1$ $m = 500$ $M = 5,000$

Salmonella

$n = 5$ $c = 0$ $m = 0$

240. The WHO Representative drew the attention of the participants to the great public health significance of the work on elaboration of the microbiological criteria for foods, especially for ready-to-eat foods such as cooked, frozen shrimps and prawns.

241. He informed the Committee that the general principles for the establishment and application of microbiological criteria for foods (ALINORM 81/13), approved by the 14th Session of the Codex Alimentarius Commission (1981), proposed two types of advisory criteria: microbiological end-product specification, intended to increase assurance that provisions of hygienic significance in the code had been met as well as a microbiological guideline, applied at the establishment at a specified point during or after processing to monitor hygiene. The last was intended to guide the manufacturer.

242. In connection with these definitions the microbiological criteria for cooked, frozen shrimps and prawns were considered by the 13th Session of the Codex Committee on Fish and Fishery Products (1979) and an *ad hoc* Working Group on this subject (1980) as end-product specifications.

243. The change in the definition of those criteria from "end-product specification" to "microbiological guidelines" by the present *ad hoc* Working Group could, in his opinion, adversely affect the extensive application of the criteria to pre-cooked frozen shrimps and prawns and thus adequate provisions of hygienic significance in the code. Guidelines on the other hand were intended to provide simple recommendations for the manufacturer on how to monitor hygiene at the post-processing level.

244. He also reminded the Committee that the question of the establishment of microbiological guidelines for the purpose of the FAO/WHO Food Standards Programme was thoroughly considered by the last Codex Committee on Food Hygiene (ALINORM 83/13, para 114) which concluded that "the manufacturer should define his own sampling plan for microbiological purposes and establish limits that will ensure that limits in microbiological end-product specifications will be, as a minimum, achieved and preferably bettered".

245. The WHO Representative therefore believed that the question of the nature of microbiological criteria for pre-cooked, frozen shrimps and prawns (end-product specification or microbiological guidelines) should be finally resolved by the Codex Committee on Food Hygiene.

246. In the discussion that followed, the Committee noted that there had been divided opinions within the Working Group on whether both End-Product Specifications and Guidelines should be developed as had originally been agreed by the Committee (see ALINORM 79/18, para 127).

247. A consensus had been reached on proposing Guidelines and not End-Product Specifications because a majority of the Group had agreed that Guidelines would best serve the purposes of producing countries who wished to meet the requirements of importing countries. Recognizing that Guidelines should be more stringent than End-Product Specifications, the Group had tightened the requirements for the testing of *Staphylococcus aureus* by reducing c from 2 to 1. In this way it was hoped that after a three-year period of testing, there would be sufficient information available to introduce End-Product Specifications.

248. The Committee noted that several delegations were of the opinion that the End-Product Specifications were desirable whilst some others had a different view.

249. The Committee emphasized that both End-Product Specifications and Guidelines were of an advisory nature, and in accepting the recommendations of the Working Group, it noted that these would now be scrutinized by the Codex Committee on Food Hygiene for a final decision on the matter. The Delegation of Thailand noted that if this were an end-product specification the figure for *Staphylococcus aureus* would be returned from 1 to 2.

250. The Committee thanked the Group for the valuable contribution it had made to the work of the Committee.

Microbiological Data for Crabmeat

251. The Committee noted that no data had been supplied to the present Session and decided to ask again for data in a further Circular Letter when the Code of Practice for Crabs would be finally elaborated through the Codex Procedure.

Code of Practice for Cephalopods

252. The Committee had available the proposal for the above Code of Practice (CX/FFP 82/11), prepared by the Fisheries Department of FAO. After a brief discussion it was decided to issue the Code at Step 3 of the procedure for Government comments.

Draft Standard for Dried Salted Fish (Klippfish) of the Gadoid Fish Families

253. The Committee noted that it embarked on elaborating the standard for dried salted fish (klippfish) of the Gadoid Fish families to meet the requests made to the Committee at its 13th Session by Peru and Brazil.

254. The Committee agreed that there was no need to change the title since both families *Gadidae* and *Merluccidae* were covered by the term Gadoid fish families.

255. The Committee noted that many varieties of fish other than klippfish in the dried and salted state move in international trade and considered whether to enlarge the scope of the standard to include such fish. It was considered, however, that it would be unwise to do so, since inclusion of other fish which vary widely in their compositional characteristics would pose insurmountable problems in standardization.

256. The Committee recognized that the dried salted product of the Gadoid fish families was a traditionally well defined commodity moving in international trade and agreed to

retain the scope of the standard covering fish belonging to the Gadoid fish families only.

257. Some delegations proposed that species other than *Gadidae* and *Merluccidae* belonging to Gadoid fish family should be included under product definition: the Committee could not take any action in the absence of specific information. It agreed that information should be sought from Governments and especially of the countries exporting and importing such products.

258. The Committee noted that the standard did not contain a defect table and agreed a table should be prepared.

259. Comments on the standard received by the Committee so far were limited to those from Mexico and South Africa. In the circumstances the Committee could not make much headway in reviewing the standard and agreed that more comments, especially from countries exporting and importing such a product, were needed.

260. The Committee agreed to append the comments received from Mexico and South Africa to the standard (Appendix V), retain it at Step 3 and send it to Governments for further comments.

Harmonization of Defect Tables in the Codex Standards for Quick Frozen Fish Fillets:
Harmonization of Codex Standards for Quick Frozen Fish Fillets and Quick Frozen Blocks of
Fish Fillet, Minced Fish Flesh and Mixtures of Fillets and Minced Fish Flesh

261. The Committee had before it the reports of the Working Groups both of which were under the chairmanship of Mr. H. Houwing (the Netherlands).

262. In presenting the reports the Chairman pointed out that the composition of the defect tables represented the point of view of consumers, inspectors and producers. The defect tables still required further examination both by the Committee and by Member Governments.

263. On the question of how best to proceed with the fillet standards which were already issued as Codex Standards, the Committee agreed that the Report of the Working Group be annexed to the present report so that the defect tables could be examined and commented upon by Governments. At an appropriate time before the next session of the Committee the Working Group would reconvene to re-examine the defect tables in the light of Government comments. It was also agreed that the Working Group mentioned in para 27 would study the defect tables in the present Standard for Fish Sticks (Fish Fingers) and Fish Portions - Breaded or in Batter.

264. The Committee noted that if these amended tables were considered satisfactory at its next Session they could be submitted to the Commission for adoption at Step 8 of the Procedure.

265. The Committee agreed to proceed in a similar manner with the proposal for the harmonization of defect tables in the Draft Codex Standards for Fish Blocks and for Fish Sticks and Portions and attached it also to the report. It was understood that the Fish Block Standard was at an early stage of elaboration and would be examined in its entirety at the next Session.

266. The reports of the Working Groups are attached to the Report as Appendix II

267. The Committee thanked the Working Groups for the valuable contribution they had made to work of the Committee.

Frozen Blocks of Whole, Headless and Gutted Fish

268. The Committee had before it a background document on the feasibility of developing a standard for the above products and an outline of such a standard contained in ALINORM 81/18,

Appendix VI. It also had available Government comments in CX/FFP 82/15.

269. The Committee noted that in the five comments received from Finland, France, Iceland, Mexico and Sweden there was a clear consensus in favour of developing such a standard. After a short discussion it was decided to request further Government opinion on the advisability of developing the Standard and to examine the matter further at the next Session.

Code of Practice for Food Grade Fish Concentrate

270. The Committee had before it document CX/FFP 82/14 summarizing the previous discussions which had taken place at the 13th Session of the Commission and at the previous session of the Committee. The document also contained Microbiological Specifications for this type of product which had been prepared by the Scientific Group of IAFMM in cooperation with FAO and the specifications for fish protein concentrate type B prepared by the Protein and Calorie Advisory Group of the United Nations (PAG).

271. The Committee noted that these products were widely used and accepted in South East Asia. The Delegation of Thailand informed the Committee that there was a potential for FPC type B in Thailand and a growing interest in a number of neighbouring countries. In Thailand, acceptability tests had been conducted on roller-dried fish from Denmark compared with FPC type B from Norway. Results showed that both products when incorporated into traditional Thai dishes, had a high degree of acceptance with some preference for the more costly roller-dried product. However, the level of acceptance varied according to socio-demographic characteristics, income levels and eating habits of the test group.

272. It was hoped to use by-catch from trawl fisheries with about 0,8-0,9 million tons available annually in Thailand for conversion into palatable and low-cost food products.

273. Acceptability tests were now in progress using by-catch as raw material for both roller-dried fish and FPC type B. The experiments were continuing and it was hoped to finalize the results by the end of this year. The price of FPC type B was cheaper than the roller-dried fish by a factor of two.

274. It was the aim not only to use FPC type B for people in rural areas as a protein supplement but also as a main ingredient in food preparation.

275. There were also many varieties of condiment products produced in Thailand using FPC as a partial ingredient.

276. The Committee noted that in the opinion of the Delegation of Thailand a Code of Hygienic Practice was required for the processing of the products as well as compositional and microbiological specifications for the final product. The Observer of IAFMM informed the Committee that at the present stage of developments it would not be possible to elaborate a Code of Hygienic Practice.

277. The Committee also noted that although the products were increasingly used in the South-East Asian Region, production, trade and consumption figures were not yet available.

278. It was agreed to defer further consideration of a possible Code of Hygienic Practice for the products until more comprehensive data could be submitted to the Committee.

Other Business

Pesticide Residues in Fish and Fishery Products

279. The Representative of FAO Fisheries Department drew the attention of the Committee to the increasing use of pesticides to prevent insect infestation of dried or smoke-dried fish and fishery products in tropical countries.

280. Potentially dangerous situations could occur where pesticides were used without any guidance. Taking into account the risk which may arise to the potential consumer of the product it was proposed to refer this problem to the Codex Committee on Pesticide Residues with the aim of reviewing the existing situation and the possible elaboration of appropriate guidance.

281. Although in most cases pesticides recognized as safe were used, more information on their effectiveness and the residues in treated fish or fishery products was required. Elaboration of the maximum permissible levels for the recommended pesticides was also required.

282. It was pointed out to the Committee that the Codex Committee on Pesticide Residues had already established a Standard Working Group to examine, among other matters, the specific problems associated with the use of pesticides in tropical countries.

283. The Delegation of Nigeria agreed that this problem required particular attention and should be brought to the attention of the above Working Group.

Histamine (Scombridae) Poisoning

284. The Representative of WHO informed the Committee that there was some concern within the Organization on the increasing number of cases of histamine poisoning caused by fishery products, but that since histamine poisoning was not a notifiable disease, little information on the incidence of histamine poisoning and the control measures in force was available in WHO.

285. Several delegations informed the Committee that such information was available in their countries.

286. The Committee agreed that a Circular Letter should be issued asking for data to be forwarded to WHO. It also noted that the Data would be of interest to the Codex Committee on Food Hygiene and should be considered by that Committee.

Reference Manual to Codes of Practice for Fish and Fishery Products

287. The Committee wished it placed on record that the above document (see also para 34) although in no way replacing the Codes of Practice prepared by the Committee, served as valuable reference material and expressed its appreciation to the Fisheries Department of FAO for its preparation.

Proposed Amendment of the Codex Standard for Quick Frozen Lobsters

288. The Committee noted that the Observer of South Africa had made a written proposal to amend the defect table in Annex C-1, Table I of the above Standard in which four serious defect points were allocated for "incomplete removal of intestine", also in the case of frozen whole lobster.

289. The Committee recognized that this created an inconsistency in the Standard since application of these defect points would mean that the major proportion of frozen whole lobster currently moving in international trade would be disqualified by these defect points.

290. The Committee agreed to recommend the addition of a footnote to the effect that these four serious defects do not apply to the product when packed in the style defined as "whole" (Section 2.3.1).

Future Work

291. The Delegation of Nigeria informed the Committee that stockfish imported from Iceland, Norway and other countries, formed a major part of the international trade in fish in Nigeria and in its opinion there was a need to elaborate Codex Standards, in order to control the

quality and safety of such products which moved widely in international trade and of which imports to Nigeria alone were more than 115000 metric tons.

292. The Committee agreed that because of its heavy workload it would not be able to give immediate attention to the elaboration of such a standard. It was informed by the Delegations of Iceland and Norway that work on relevant information on these lines was already being collated. The Delegations of Iceland and Norway agreed to keep Nigeria and the Committee informed of further developments in the preparation of the standards and other control measures in use.

Codex Standards for Canned Shrimps and Prawns

293. The Committee noted the observation of the Delegation of Sweden that there was no defects table in the above standard but decided to take no action on the matter at the present time.

Date and Place of Next Session

294. The Committee noted that discussion had taken place in the Commission on the possibility of holding a future Session in a developing country. Because of the administrative problems involved this was unlikely to affect the location of the next Session which would in all likelihood be held in Bergen. The exact date would be decided by agreement between the Secretariat and the Norwegian authorities.

ALINORM 83/18
APPENDIX I

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PROPOSED REVISION
CODEX STANDARD FOR CANNED PACIFIC SALMON

(CAC/RS 3-1969, Rev. 1)

(Retained at Step 6)

1. SCOPE

This standard applies to Canned Pacific Salmon in its own juice with or without added salmon oil. It does not apply to speciality products where salmon constitutes only a portion of the edible contents.

2. DESCRIPTION

2.1 Product Definition

Canned Pacific Salmon is the product:

- prepared from the following species: Oncorhynchus nerka
Oncorhynchus kisutch
Oncorhynchus tshawytscha
Oncorhynchus gorbuscha
Oncorhynchus keta
Oncorhynchus masou
- packed in hermetically sealed containers; and
- processed by heat so as to prevent spoilage and to soften bones.

2.2 Presentation

The product shall be presented in one of the following styles and forms of pack.

2.2.1 Style of Pack

2.2.1.1 Regular Style consists of canned salmon to which salt has been added.

2.2.1.2 No Added Salt consists of canned salmon to which no salt has been added.

2.2.2 Forms of Pack

2.2.2.1 Regular Pack - sections which are cut transversely from the fish and which are filled vertically into the can. The sections shall be packed so that the cut surfaces are approximately parallel with the ends of the container.

2.2.2.2 Skinless and Boned Salmon - regular pack canned salmon from which the skin and vertebrae have been substantially removed.

2.2.2.3 Minced Salmon - salmon which has been minced or ground

2.2.2.4 Salmon Tips or Tidbits - small pieces of salmon

2.2.3 Other Presentations

Any other presentation shall be permitted provided that it:

- (i) is sufficiently distinctive from other forms of presentation laid down in this standard;

- (ii) meets all the other requirements of this standard; and
- (iii) is adequately described on the label to avoid confusing or misleading the consumer.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Raw Material

The product shall be prepared from clean, wholesome and sound fish belonging to one of the species listed under section 2.1 and may be fresh or frozen and shall be of a quality suitable for human consumption.

3.2 Optional Ingredients

3.2.1 Salt

3.2.2 Oil - edible salmon oil comparable in colour, viscosity and flavour to the oil which would naturally occur in the product.

3.3 Processing

- The fish shall have heads (including gills), tails, fins, loose scales, viscera, including eggs, milt and blood removed; damaged or discoloured flesh associated with bruises or small wounds shall be cut away.
- The fish shall be well washed; the body cavity thoroughly cleaned to remove blood and viscera.
- The fish shall be well packed in accordance with the form of pack desired, in clean containers which are free from dents, rust or defective seams.
- The containers shall be sealed under vacuum and shall be heat processed and cooled.

3.4 Final Product

3.4.1 Appearance

- (i) The can shall be well filled with fish
- (ii) The product in a can shall comprise fish of an appearance and colour characteristic of the species processed and packed in the manner indicated in section 2.2.2.
- (iii) The oil and liquid released during processing shall be normal and characteristic of the species packed.
- (iv) The product shall be practically free from bruises, blood spots, honeycombing, abnormal colours or viscera and reasonably free from pieces of detached or loose skin and scales.
- (v) In the case of regular packs, the sections of fish shall be arranged so that the cut surfaces are approximately parallel to the opened end and the skin side parallel to the walls of the can. Regular packs shall be reasonably free from cross packs and pieces or sections of vertebrae across the top of the can.

3.4.2 Odour and Flavour

The product shall have an odour and flavour characteristic of the species and be free from objectionable odours and flavours of any kind.

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3.4.3 Texture

The fish shall have a texture characteristic of the species.

3.4.4 Bones

Bones when present shall be soft (see also Section 2.2.2.2).

3.4.5 Foreign Matter

The product shall be free from foreign material.

3.5 Defects and Tolerances

A can which does not comply with the definition and quality factors as set forth in this standard subject to the tolerance allowances as defined in Annex A shall be considered defective.

4. HYGIENE

4.1 To the extent possible in good manufacturing practice the product shall be free from objectionable matter.

4.2 When tested by appropriate methods of sampling and examination, the product:

- (a) shall be free from micro-organisms capable of development under normal conditions of storage; and
- (b) shall not contain any substances originating from micro-organisms in amounts which may represent a hazard to health.

4.3 Products with an equilibrium pH above 4.6 shall have received a processing treatment sufficient to destroy all spores of *Clostridium botulinum*.

4.4 In order to achieve the above requirements, it is recommended that the products covered by the provisions of this standard be prepared and handled in accordance with the following Codes:

- (i) the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969);
- (ii) the Recommended International Code of Practice for Canned Fish (CAC/RCP 10-1976); and
- (iii) the Draft Code of Hygienic Practice for Low Acid Canned Foods.

5. LABELLING

In addition to Sections 1, 2, 4 and 6 of the Recommended International General Standard for the Labelling of Pre-packaged Foods (Ref. No. CAC/RS 1-1969) the following specific provisions apply / subject to endorsement by the Codex Committee on Food Labelling/:

5.1 The Name of the Food

5.1.1 The name of the product as declared on the label shall be the designation appropriate to the species of the fish packed as shown below:

<u>Species</u>	<u>Designation</u>
Oncorhynchus nerka	Sokeye Salmon or Red Salmon
Oncorhynchus kisutch	Coho Salmon, Silver Salmon or Medium Red Salmon
Oncorhynchus tshawytscha	Spring Salmon, King Salmon or Chinook Salmon
Oncorhynchus gorbuscha	Pink Salmon
Oncorhynchus keta	Chum Salmon or Keta Salmon
Oncorhynchus masou	Cherry Salmon

5.1.2 The style and form of pack shall be declared in accordance with Sections 2.2.1 and 2.2.2 with the exception of Regular Style 2.2.1.1 and Regular 2.2.2.1 which need not be declared.

5.1.3 If the product is produced in accordance with sub-section 2.2.3, the label shall contain in close proximity to the name of the product such additional words or phrases that will avoid misleading or confusing the consumer.

5.2 List of Ingredients

A complete list of ingredients shall be declared on the label in descending order of proportion; Sections 3.2(b) and (c)* of the Recommended International General Standard for Labelling of Prepackaged Foods (CAC/RS 1-1969) are applicable.

5.3 Net Contents

The total net contents shall be declared by weight in either the metric system ("Système international" units) or avoirdupois or both systems of measurement as required by the country in which the product is sold.

5.4 Name and Address

The name and address of the manufacturer, packer, distributor, importer, exporter or vendor of the product shall be declared.

5.5 Country of Origin

The country of origin of the product shall be declared if its omission would mislead or deceive the consumer.

5.6 Lot Identification

Each container shall be embossed or otherwise permanently marked in code or in clear to identify the producing factory and the lot.

6. METHODS OF SAMPLING AND ANALYSIS

The methods of sampling and analysis described hereunder are international reference methods.

* Note by the Secretariat: Reference to Section 3.2(c) does not seem necessary.

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6.1 Sampling for Destructive Examination

Sampling of lots for examination of the product shall be in accordance with the FAO/WHO Codex Alimentarius Sampling Plans for Pre-Packaged Foods (AQL-6.5) (CAC/RM 42-1969).

6.1.1 Organoleptic Assessment

Organoleptic assessment of the product shall be made only by persons trained in such assessment.

6.2 Determination of Net Contents

Net contents shall be determined by averaging the results from all containers of sample representing a lot.

Procedure

- (1) Weigh the unopened container.
- (2) Open the container and remove the contents, wash the container and cover and dry with absorbant paper or cloth.
- (3) Weigh the empty container, including the top.
- (4) Subtract the mass of the empty container from the mass of the unopened container. The resultant figure shall be considered to be the net content.

7. CLASSIFICATION OF DEFECTIVES

A container which fails to meet the end-product requirements specified in section 3.5 shall be considered a "defective".

8. LOT ACCEPTANCE

A lot will be considered as meeting the requiremnts for essential composition and quality factors and net contents of this standard when the total number of "defectives" does not exceed the acceptance number (c) of the appropriate sampling plan (AQL-6.5) in the FAO/WHO Codex Alimentarius Sampling Plans for Pre-Packaged Foods (CAC/RM 42-1969) and when the average net contents of all containers examined is not less than the declared net contents, provided there is no unreasonable shortage in any individual container.

ANNEX A
DEFECT TABLE FOR CANNED PACIFIC SALMON

<u>Defect Description</u>	<u>Defect Categories</u>		
	<u>Serious</u>	<u>Major</u>	<u>Minor</u>
A. <u>Appearance</u>			
Cloudy liquid	-	-	1
Crossfil	-	-	1
Ragged appearance	-	-	1
B. <u>Hard Bone</u>	Defective	-	-
C. <u>Odour or Flavour</u>			
Distinctly objectionable odour or flavour	Defective	-	-
D. <u>Colour of Flesh</u>			
Mixed species in a single can	-	-	1
Abnormal pale colour for the species	-	-	1
E. <u>Discolouration of skin</u>			
Slight to moderate water marks	-	-	1
Extensive water marks	-	2	-
F. <u>Workmanship</u>			
Parts of heads or tails or fins, each instance	-	-	1
Detached skin, each complete 5 cm ²	-	-	1
Scales, each 5 to 10 loose scales	-	-	1
Each additional 5 scales	-	-	1
Parts of viscera, each instance	-	2	-
G. <u>Texture</u>			
Mushy fish flesh	Defective	-	-
Soft fish flesh	-	-	1
Honeycomb-like flesh	-	2	-
H. <u>Bruising and blood spots</u>			
Affecting up to 10% by weight of the contents		-	1
Affecting 10% or more by weight of the contents		2	-
I. <u>Foreign material</u>	Defective	-	-
<u>Defective unit</u>			
A sample unit shall be considered a defective unit if it has;			
<u>Points classified as:</u>			
Serious	defective		
Major	[6]		
Major + minor	[8]		

PROPOSED DRAFT STANDARD FOR QUICK FROZEN BLOCKS OF
FISH FILLET, MINCED FISH FLESH AND MIXTURES OF FILLETS AND MINCED FISH FLESH

(Returned to Step 3)

1. SCOPE

This standard shall apply to quick frozen blocks of cohering fish flesh, prepared from fillets or minced fish flesh or a mixture of fillets and minced fish flesh which are intended for further processing.

2. DESCRIPTION

2.1 Product Definition

- (a) Quick frozen blocks are rectangular or other uniformly shaped masses of cohering fish fillets or minced fish or a mixture of fillets and minced fish flesh prepared from:
 - (i) a single species, or
 - (ii) a mixture of species.
- (b) Fillets are slices of fish of irregular size and shape which are removed from the carcass by cuts made parallel to the back bone and pieces of such fillets.
- (c) Minced fish flesh used in the manufacture of blocks shall be particles of skeletal muscle which have been separated from and are essentially free from bones and skin.

2.2 Process Definition

The product after any suitable preparation shall be subjected to a freezing process and shall comply with the conditions laid down hereafter. The freezing process shall be carried out in appropriate equipment in such a way that the range of temperature of maximum crystallization is passed quickly. The quick freezing process shall not be regarded as complete until the product temperature has reached a level which will ensure that the temperature at the thermal centre will not be higher than -18°C after thermal stabilisation. The product shall be maintained under such conditions as will maintain the quality during transportation, storage and distribution up to and including the time of final sale. The recognized practice of further processing of intermediate quick frozen material under controlled conditions followed by the reapplication of the quick freezing process is permitted.

2.3 Presentation

The product shall be presented in fish blocks comprising:

- (a) Fillets and minced fish flesh:
 - (i) In proportions, not to exceed 25% m/m minced fish flesh uniformly distributed in the block.
 - (ii) Other proportions containing more than 25% m/m minced fish flesh.
- (b) Minced fish flesh
- (c) Other presentations

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Raw Material

Quick frozen blocks shall be prepared from well drained fillets or minced flesh of sound fish which are of a quality fit to be sold fresh for human consumption.

3.2 Optional Ingredients

Sodium chloride may be present at a level not exceeding 1.0% m/m.

3.3 Final Product

3.3.1 The blocks shall be reasonably regular in shape and in weight, and have a reasonably uniform colour characteristic of the species or mixture of species and be free from foreign matter; and shall be reasonably free from viscera, fins or parts of fins, significantly discoloured flesh, bruises, blood clots, membrane (belly wall), parasites, scales and where appropriate skin and bones (see Annexes B, C and D).

3.3.2 The blocks shall be free from a deep dehydration condition which masks the normal colour, cannot be easily removed by scraping, and covers more than 5% of the surface area of a block.

3.3.3 After cooking by steaming, baking or boiling as set out in Annex A, the product:

- (a) shall have a flavour and odour characteristic of the species or mixture of species and be free from any objectionable flavour and odour, and
- (b) shall have a texture characteristic of the species or mixture of species packed and shall not be spongy or rubbery or mashy or gelatinous or tough or gritty (see Annexes B, C and D).

3.3.4 The percentage of minced fish in a block as declared in paragraph 6.1.5 and as determined in paragraph 7.2.6 shall be accurate to within $\pm 5\%$ m/m of the net fish content.

4. FOOD ADDITIVES

Maximum level in
the final product

4.1 For Fish Fillets only

4.2 Water-binding agents (drip-loss prevention)

4.2.1 Monophosphate, monosodium or monopotassium)
(Na or K orthophosphate))

4.2.2 Diphosphate, tetrasodium or tetrapotassium)
(Na or K pyrophosphate))

4.2.3 Triphosphate, pentasodium or pentapotassium)
or calcium (Na, K or Ca tripolyphosphate))

4.2.4 Polyphosphate, sodium)
(Na hexametaphosphate))

4.2.5 Sodium alginate

5 g/kg expressed as
P₂O₅, singly or in
combination

5 g/kg

4.3 Antioxidant

4.3.1 Ascorbic acid or its sodium or potassium salts)

1 g/kg expressed as ascorbic
acid

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FOOD ADDITIVES		<u>Maximum level in the final product</u>
4.3.2 Propyl gallate, octyl gallate and dodecylgallate))	100 mg/kg singly or in combination
4.4 <u>In addition, for Minced Fish Flesh only:</u>		
4.5 <u>Water binding agents</u> (drip-loss prevention)		
4.5.1 Sodium alginate		5 g/kg
4.6 <u>Antioxidants</u>		
4.6.1 Ascorbic acid or its sodium or potassium salts))	1 g/kg expressed as ascorbic acid
4.6.2 Propyl gallate, octyl gallate and dodecylgallate))	100 mg/kg singly or in combination
4.6.3 Citric acid and Na or K salts		1 g/kg
4.7 <u>Thickening Agents</u>		
4.7.1 Guar gum))	
4.7.2 Carob bean (locust bean) gum))	5 g/kg singly or
4.7.3 Pectin))	in combination
4.7.4 Carboxymethyl cellulose, sodium salt))	
4.7.5 Xanthan gum))	
4.7.6 Carrageenan))	
4.7.7 Methyl Cellulose))	
5. <u>HYGIENE AND HANDLING</u>		
5.1 To the extent possible in good manufacturing practice, the product shall be free from objectionable matter.		
5.2 When tested by appropriate methods of sampling and examination, the product:		
(a) shall be free from micro-organisms in amounts which may represent a hazard to health:		
(b) shall be free from parasites which may represent a hazard to health;		
(c) shall not contain any substances originating from micro-organisms in amounts which may represent a hazard to health.		
5.3 It is recommended that the products covered by the provisions of this standard be prepared and handled in accordance with the <u>Recommended International Code of Practice - General Principles of Food Hygiene</u> (CAC/RCP 1-1969), Rev. 1) and the <u>Recommended Code of Practice for Frozen Fish</u> (CAC/RCP 16-1978) and the <u>Recommended Code of Practice for Minced Fish</u> (CX/FFP 79/4, Rev. 1 (being developed)).		

6. LABELLING

In addition to the Draft Guidelines for Labelling of non-retail Containers, the following specific provisions apply subject to endorsement by the Codex Committee on Food Labelling.

6.1 Name of the Food

6.1.1 The name of the food shall be declared as "x y blocks" in accordance with the law, custom or practice of the country in which the product is distributed, "y" shall represent the common name of the species or species packed and "x" shall represent the form of presentation of the block (filleted, minced, filleted plus minced). Where more than one species is used in a block, the name of the species shall appear in close proximity to the name of the food.

6.1.2 Blocks prepared from skinless and/or boneless fillets may be designated as such.

6.1.3 Blocks prepared from "skin-on" fillets shall be designated on the [freight container] "skin-on" and may be designated as boneless when boning is completed.

6.1.4 In addition, the labelling on the [freight container] shall show the term "frozen", or "quick frozen" whichever is customarily used in the country in which the product is distributed, to describe a product subjected to the freezing process described in Section 2.2.

[6.1.5 For products referred to in 2.3 (2) (ii) the labelling shall show the proportions of minced fish incorporated in the block.]

6.2 List of Ingredients

6.2.1 A complete list of ingredients shall be declared on the [freight container] in order of proportion.

6.3 Net Contents

6.3.1 The net contents shall be declared by weight on the [freight container] metric system ("Système international" units) or avoirdupois or both systems as required by the country in which the food is distributed.

6.3.2 Where products have been glazed the declaration of the net contents of the product shall be exclusive of the glaze.

6.4 Name and Address

The name and address of the manufacturer, packer, distributor, importer, exporter or vendor of the food shall be declared on the [freight container].

6.5 Country of Origin

6.5.1 The country of origin shall be declared if its omission would mislead or deceive the consumer.

[6.5.2 When a food undergoes processing in a second country which changes its nature, the country in which the processing is performed shall be considered to be the country of origin for the purposes of labelling.]

6.6 Lot Identification

Each [freight container] shall be permanently marked in code or in clear to identify the producing factory and the lot.

6.7 Storage Instructions

The [freight containers] shall bear clear directions for storage.

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6.8 Identification Marking and Related Documents

The information required in 6.1-6.6 may be supplied by the name of the food and code identification and given only in related documents provided that such a code is clearly identifiable with the related documents.

7. METHODS OF SAMPLING, EXAMINATION AND ANALYSIS

The methods of sampling, examination and analysis described hereunder are international reference methods.

7.1 Sampling

Sampling of lots for examination of the product shall be in accordance with the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL 6.5) CAC/RM 42-1969.

7.2 Organoleptic and Physical Examination

Samples taken for organoleptic and physical examination shall be assessed by persons trained in such examinations.

7.2.1 Weight

The net weight (exclusive of packing material or protective coating) of each sample block shall be determined in the frozen state.

7.3 Quantities for physical and organoleptic examination

The amount of material to be used for physical and organoleptic examination shall be as follows:

- (i) whole block - Frozen state
 - net weight
 - dehydration
 - irregularity
 - glaze
- (ii) At least 4 kg - Thawed state
 - % mince
 - physical defects
 - sensory - raw odour
- (iii) 250 grams - Cooked state
 - odour
 - flavour
 - texture

7.4 Determination of Net-Content of Products Covered by Glaze

(Method to be developed).

7.5 Determination of Proportions of Fillet and Minced Fish in Quick Frozen Blocks prepared from mixtures of fillets and minced fish

(Method to be developed).

8. CLASSIFICATION OF DEFECTIVES

A block which fails to meet the requirements of Section 3.3.1 or 3.3.2, 3.3.3 or 3.3.4 shall be considered "defective".

9. LOT ACCEPTANCE FOR QUALITY

A lot will be considered as meeting the Final Product requirements of this standard when the total number of "defectives" in a sample does not exceed the acceptance number specified in the sampling plan.

ANNEX "A"

COOKING METHODS

Following procedures are based on heating product to internal temperature $\geq 70^{\circ}\text{C}$ (160°F). Cooking times vary according to size of product and equipment used. If determining cooking time, cook extra sample using temperature measuring device to determine internal temperature.

Cut 3 portions, each about 10 x 7.5 x 1.2 cm (4 x 3 x 0.5 in.) from sample.

- (a) Baking Procedure: Wrap product in aluminium foil and distribute evenly on flat cookie sheet or shallow flat pan. Heat in ventilated oven, preheated to 204°C (400°F), until internal temperature of product reaches $\geq 70^{\circ}\text{C}$ (160°F).
- (b) Steaming Procedure: Wrap product in aluminium foil and place on wire rack suspended over boiling water in covered container. Heat until internal temperature of product reaches $\geq 70^{\circ}\text{C}$ (160°F).
- (c) Boiling in Bag: Place the product into a boilable film-type pouch and seal. Immerse the pouch and its contents into boiling water and cook until the internal temperature of the product reaches $\geq 70^{\circ}\text{C}$ (160°F).

ANNEX "B"

DEFINITION OF DEFECTS IN QUICK FROZEN BLOCKS OF FISH FILLETS AND
MINCED FISH FLESH

Dehydration (Freezerburn)

(A) Deep dehydration

An excessive loss of moisture from the surface of the block which shows clearly on the surface of the product, penetrates below the surface and cannot be easily removed by scraping.

(B) Moderate dehydration

A loss of moisture from the surface of the block which is colour-masking, but does not penetrate the surface and can be easily removed by scraping.

Block Irregularity

Ice pockets, ragged edges, damage, poor angles or non-uniformity of shape which would result in product loss after cutting estimated by determining the number of 25 g (1 oz.) units which could be adversely affected. For the purpose of estimating product loss, the 25 g (1 oz.) unit shall have the dimensions 10 x 2.5 x 1.6 cm (4 x 1 x 5/8 in.).

Bones

Any bones exceeding the sizes specified in Annex "C" and Annex "D". Any bone whose maximum profile can be fitted within a rectangle measuring $\overline{10} \times \overline{3}$ mm is not regarded as a bone for the purpose of being classified as a defect.

Any bone whose maximum profile lies outside a rectangle measuring $\overline{40} \times \overline{10}$ mm is regarded as a "critical bone".

Any bone whose maximum profile cannot be fitted within a rectangle measuring $\overline{10} \times \overline{3}$ mm, but which can be fitted into a rectangle measuring $\overline{40} \times \overline{10}$ mm is rated as a bone defect.

Blood Clots and Discolouration

A. Fillet Blocks

- (i) Any lump or mass of clotted blood greater than 5 mm in any dimension.
- (ii) Any significant discolouration, including bruises, browning, yellowing and melanin sooting which is greater than 3 cm² up to and including 10 cm² and each additional complete 5 cm² thereafter.

B. Minced Blocks

Any readily noticeable lump or mass of clotted blood or any readily noticeable discoloured area not characteristic of the species used.

Fins or Part Fins

A. Fillet Blocks

Any fin or part fin (two or more rays connected by membrane).

B. Minced Blocks

Not applicable - shows as bone and/or membrane.

Skin, Membrane (Belly Lining), Scales and Spinal Cord

A. Fillet Blocks

- (i) In the case of skinless fillet blocks each piece of skin greater than 3 cm² up to and including 10 cm² and every additional complete 5 cm² thereafter.
- (ii) In the case of skin-on or skinless fillet blocks each piece of block membrane (belly lining) greater than 5 cm² up to and including 10 cm² and every additional complete 5 cm² thereafter.

B. Minced Blocks

Any readily noticeable piece of skin, membrane (black or white) scale or spinal cord.

Parasites

Each parasite with a capsular diameter greater than 3 mm or a parasite not encapsulated and greater than 1 cm in length, or other parasitic infestation which is easily recognised on inspection, e.g. by virtue of its dark colour.

Scales

A. Skin-on Fillets

(i) Each area of scales over 3 cm² up to and including 10 cm² and every additional complete 5 cm² thereafter.

(ii) Each complete unit of 5 loose scales

B. Skinless fillets

Each complete unit of 5 loose scales.

Odour and Flavour

Any flavour or odour which after cooking is distinctly objectionable e.g. rancid or tainted.

Texture

Any texture which after cooking is distinctly objectionable e.g. spongy, or rubbery, or mushy, or gelatinous, or gritty or tough.

Viscera

Any portion of the internal organs.

Foreign Matter

Any material not derived from fish or not permitted by the Standard.

Proportion of Minced Fish

The declared percentage of minced fish in a block, as required in paragraph 6.1.6 and as determined in paragraph 7.2.5 shall be accurate to within $\frac{\quad}{\quad}$ % of the net fish content.

ANNEX "C"

PROPOSED DRAFT DEFECT TABLE FOR FROZEN BLOCKS OF FISH FILLETS AND MIXTURES OF FILLETS AND MINCED FISH FLESH

<u>Defect Description</u>	<u>Classification</u>		
	<u>Serious</u>	<u>Major</u>	<u>Minor</u>
<u>FROZEN STATE</u> (Sample Block)			
1. <u>Dehydration</u>			
(a) Deep			
(i) > 5% of area	6	-	-
(ii) < 5% of area	-	4	-
(b) Moderate, > 5% of area	-	-	1
2. <u>Block Irregularity</u>			
(a) 2-5% loss - by weight or minimum number of units affected	-	-	1
(b) 5-10% loss - by weight or minimum number of units affected	-	2	-
(c) each additional 10% loss - by weight or minimum number of units affected	-	2	-

THAWED STATE (1 kg (2 lbs.) sample unit or blocks under 10 kg) (2 kg sample unit for blocks over 10 kg)	Classification		
	Serious	Major	Minor
3. <u>Colour</u>			
(a) abnormally dark	6	-	-
(b) darker than characteristic colour	-	2	-
4. <u>Bones</u>			
(a) Blocks not designated boneless			
- each <u>single bone</u> , other than pin bones, > 5 mm in any dimension or each cluster of such bones within an area of 3 cm ²	-	2	-
(b) Blocks designated boneless			
- each <u>single bone</u> > 5 mm in any dimension	2	-	-
or as an alternative:			
(a) Blocks not designated boneless			
- each <u>single bone</u> , other than pin bones > 15 mm in length or > 1/3 mm in diameter or each cluster of such bones within an area of 3 cm ²	-	2	-
(b) Blocks designated boneless			
- each <u>single bone</u> > 15 mm in length or > 1/3 mm in diameter	2	-	-
5. <u>Blood Clots and Discolouration</u>			
(a) Each <u>clot</u> > 5 mm in any dimension	-	2	-
(b) Each significant <u>discolouration</u> 3-10 cm ²	-	-	1
(c) Over 10 cm ² , each additional complete 5 cm ²	-	-	1
6. <u>Fins or Part Fins, each instance</u>	-	2	-
7. <u>Skin and Membrane</u>			
(a) Skinless blocks			
(i) Each piece of <u>skin</u> > 3 cm ² ≤ 10 cm ² , or each piece of <u>black membrane</u> > 5 cm ² to 10 cm ²	-	1	-
(ii) Over 10 cm ² , each additional complete 5 cm ²	-	-	1
(b) Skin-on Blocks			
(i) Each piece of <u>black membrane</u> > 5 cm ² ≤ 10 cm ²	-	1	-
(ii) Over 10 cm ² , each additional complete 5 cm ²	-	-	1

8. <u>Scales</u>	<u>Classification</u>		
	<u>Serious</u>	<u>Major</u>	<u>Minor</u>
(a) Skin-on fillets scaled			
(i) Each area of <u>scale</u> $\geq 3 \text{ cm}^2 - \leq 10 \text{ cm}^2$	-	-	1
(ii) Over 10 cm^2 <u>scale</u> , every additional complete 5 cm^2	-	-	1
(b) Skinless fillets			
Each complete unit of 5 loose <u>scales</u>	-	-	1
9. <u>Viscera</u> - each instance	2	-	-
10. <u>Parasites</u> - each instance	-	2	-
11. <u>Foreign Matter</u> - each instance	6	-	-
12. <u>Packaging Material</u>	2	-	-
<u>COOKED STATE</u> (100 g (4 oz.) sub-sample)			
13. <u>Odour or flavour</u> distinctly objectionable	6	-	-
14. <u>Texture</u>			
(a) The flesh is definitely spongy, or rubbery, or mushy, or gelatinous, or tough	6	-	-
(b) The flesh is moderately spongy, or rubbery, or soft, or tough	4	-	-

APPENDIX IV

PROPOSED DRAFT STANDARD FOR QUICK FROZEN FISH STICKS
(FISH FINGERS) AND FISH PORTIONS - BREADED OR IN BATTER

Returned to Step 3

1. SCOPE

This standard applies to quick frozen fish sticks (fish fingers) and fish portions cut from quick frozen fish flesh blocks or formed from fish flesh with breaded or batter coatings, singly or in combination, raw or partially cooked and offered for direct human consumption without further processing. This standard does not apply to natural fish fillets with breaded or batter coatings.

2. DESCRIPTION

2.1 Product Definition

2.1.1 A fish stick (fish finger) is the product including the coating weighing not less than 20 g (0.7 oz.) and not more than 50 g (1.8 oz.) shaped so that the length is not less than three times the greatest width. Each stick shall be not less than 10 mm thick.

2.1.2 A fish portion including the coating, other than products under 2.1.1, may be of any shape and size excluding fish sticks (fish fingers).

2.2 Process Definition

The product after any suitable preparation shall be subjected to a freezing process and shall comply with the conditions laid down hereafter. The freezing process shall be carried out in appropriate equipment in such a way that the range of temperature of maximum crystallization is passed quickly. The quick freezing process shall not be regarded as complete until the product temperature has reached a level which will ensure that the temperature at the thermal center will not be higher than -18°C after thermal stabilization. The product shall be maintained under such conditions as will maintain the quality during transportation, storage and distribution up to and including the time of final sale. (See also CX/FFP 79/8. Code of Practice for Frozen Battered and/or Breaded Fishery Products). The recognized practice of further processing of intermediate quick frozen material under controlled conditions followed by the re-application of the quick freezing process is permitted.

2.3 Presentation

- (i) Raw breaded fish sticks (fingers)
- (ii) Raw breaded fish portions
- (iii) Partially cooked breaded fish sticks (fingers)
- (iv) Partially cooked breaded fish portions
- (v) Battered partially cooked fish sticks (fingers)
- (vi) Battered partially cooked fish portions
- (vii) Other presentations

Any other presentation of the product shall be permitted provided that it:

- (a) is sufficiently distinctive from other presentations laid down in this standard;
- (b) meets all the other requirements of the standard; and
- (c) is adequately described on the label to avoid confusing or misleading the consumer.

The ingredients shall when appropriate be in agreement with the relevant Codex standard.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3. Raw Material

3.1.1 Fish

Quick frozen breaded or battered fish sticks (fish fingers) and breaded or battered fish portions shall be prepared from fish fillets or minced fish flesh or mixtures thereof, of edible species which are of a quality such as to be sold fresh for human consumption. The raw materials may be in the form of quick frozen blocks.

3.1.2 Coating

The coating used shall consist of ingredients fit for human consumption (see also Section 4).

3.1.3 Frying fat (oil)

A fat (oil) used in the cooking operation shall be suitable for human consumption and for the desired final product characteristics (see also Section 4).

3.2 Final Product

3.2.1 Minimum Requirements for Proportions of Fish Flesh Core

% of declared weight
of final product

- | | | |
|------|---------------------------|----|
| (i) | Raw products | 60 |
| (ii) | Partially cooked products | 50 |

3.2.2 On opening, the pack shall be reasonably free from loose coating and shall comprise fish sticks (fish fingers) or fish portions which are:

- (a) reasonably uniform in size (unless an indication of mixed sizes is given on the label);
- (b) easily separated into individual units;
- (c) free from foreign matter;
- (d) free from excessive dehydration (freezer burn);
- (e) reasonably free from broken or cracked or damaged units;
- (f) reasonably free from discolouration; and
- (g) reasonably free from excess fat (oil)

3.2.3 The coating shall be reasonably complete and reasonably uniform in colour.

3.2.4 The fish content of the product shall be:

- (a) reasonably free from any parts of the internal organs;
- (b) reasonably free from bones, fins or parts of fins; and
- (c) reasonably free from discoloured flesh, blood clots, black membrane, parasites, skin and scales.

Note: The wording of Section 3.2.3 should remain in harmony with the proposed draft standard for quick frozen fish blocks.

3.2.5 The product shall be free from objectionable odour, flavour and texture. If the product is presented under a species name, the odour, flavour and texture and the colour of the flesh shall be characteristic of the species or mixture of species used.

3.2.6 The products in the various forms of presentation shall comply with the definitions and essential quality factors as set forth in this standard subject to tolerance allowances as set forth in Annex C.

3.3 Optional Ingredients

Spices, herbs, vegetable seasonings, cereal flours, potato flour, sodium chloride and spice oils. The ingredients shall be suitable for human consumption and shall be free from abnormal taste, flavour or odour.

4. FOOD ADDITIVES

The maximum level in the final product is in proportion to the requirements given in 2.2.

FOOD ADDITIVES (For Fish Fillets only)

Maximum level in
the final product

4.1 Water-binding agents (drip-loss prevention)

- | | | | |
|-------|---|---|--|
| 4.1.1 | Monophosphate, monosodium, or monopotassium |) | 5 g/kg expressed as |
| | (Na or K orthophosphate) |) | P ₂ O ₅ , singly or in |
| | |) | combination |
| | |) | |
| | |) | |

<u>FOOD ADDITIVES (For Fish Fillets only) (Cont.)</u>		<u>Maximum level in the final product</u>
4.1.2	Diphosphate, tetrasodium or tetrapotassium (Na or K pyrophosphate))	5 g/kg expressed as P ₂ O ₅ , singly or in combination
4.1.3	Triphosphate, pentasodium or pentapotassium or calcium (Na, K or Ca tripolyphosphate))	
4.1.4	Polyphosphate, sodium (Na hexametaphosphate))	
4.1.5	Sodium alginate	5 g/kg
4.2	<u>Antioxidant</u>	
4.2.1	Ascorbic acid, sodium or potassium salts)	1 g/kg expressed as ascorbic acid
4.2.2	Propyl gallate, octyl gallate and dodecylgallate)	
	<u>In addition, for Minced Fish Flesh only:</u>	
4.3	<u>Water binding agents (drip-loss prevention)</u>	
4.3.1	Sodium alginate	5 g/kg
4.4	<u>Antioxidants</u>	
4.4.1	Ascorbic acid, sodium or potassium salts)	1 g/kg expressed as ascorbic acid
4.4.2	Propyl gallate, octyl gallate and dodecylgallate)	
4.4.3	Citric acid and Na or K salts	1 g/kg
4.5	<u>Thickening Agents</u>	
4.5.1	Guar gum)	5 g/kg singly or in combination
4.5.2	Carob bean (locust bean) gum)	
4.5.3	Pectin)	
4.5.4	Carboxymethyl cellulose, sodium salt)	
4.5.5	Xanthan gum)	
4.5.6	Carrageenan)	
4.5.7	Methyl cellulose)	
	<u>Food Additives for Bread or Batter</u>	<u>Maximum level in bread or batter</u>
4.6	<u>Leavening Agents</u>	
4.6.1	Monocalcium phosphate)	Limited by G.M. P.
4.6.2	Dicalcium phosphate)	
4.6.3	Sodium aluminium phosphate)	
4.6.4	Sodium acid pyrophosphate)	
4.6.5	Sodium, potassium and ammonium carbonates)	
4.6.6	Sodium, potassium and ammonium bicarbonates)	
4.7	<u>Flavour Enhancers</u>	
4.7.1	Monosodium glutamate	Limited by G.M.P.

Maximum level in bread
or batter

4.8 Acidifying agents

- 4.8.1 Lactic acid)
 - 4.8.2 Citric acid or their Na and K salts)
- 1 g/kg of the final product
expressed as lactic or citric
acid

4.9 Colours

- 4.9.1 Annatto 75120)
 - 4.9.2 Beta carotene 75130)
 - 4.9.3 Other carotenes)
 - 4.9.4 Azogeratinine or Red 2G 18050 *)
 - 4.9.5 Caramel)
 - 4.9.6 Tartrazine 19140)
 - 4.9.7 Sunset yellow, FCF 15985)
 - 4.9.8 Red 40)
 - 4.9.9 Ponceau 4R 16255)
- Limited by G.M.P.

4.10 Thickeners

- 4.10.1 Guar gum)
 - 4.10.2 Carob bean (Locust bean) gum)
 - 4.10.3 Carrageenan)
 - 4.10.4 Xanthan gum)
 - 4.10.5 Pectins)
 - 4.10.6 Sodium alginate)
 - 4.10.7 Hydroxypropyl cellulose)
 - 4.10.8 Hydroxypropyl methyl cellulose)
 - 4.10.9 Methylethylcellulose)
 - 4.10.10 Sodium carboxymethylcellulose)
- 5 g/kg singly or
in combination
- 2.5 g/kg
- 5 g/kg singly or
combination

4.11 Emulsifying agents

- 4.11.1 - Glyceryl monostearate or lactylate)
 - 4.11.2 - Sodium steroyl 2 - lactylate or)
 - 4.11.3 - Lecithin, mono and diglycerides)
- 5 g/kg of the final product
singly or in combination

4.12 Chemically Modified Starches

- 4.12.1 - Acid treated starches)
 - (including white and yellow dextrans))
 - 4.12.2 - Alkali treated starches)
 - 4.12.3 - Bleached starches)
 - 4.12.4 - Distarch adipate, acetylated)
 - 4.12.5 - Distarch glycerol)
 - 4.12.6 - Distarch glycerol, acetylated)
 - 4.12.7 - Distarch glycerol, hydroxypropyl)
 - 4.12.8 - Distarch phosphate)
 - 4.12.9 - Distarch phosphate, acetylated)
 - 4.12.10 - Distarch phosphate, hydroxypropyl)
 - 4.12.11 - Distarch phosphate, phosphated)
 - 4.12.12 - Monostarch phosphate)
 - 4.12.13 - Oxidized starch)
 - 4.12.14 - Starch acetate)
 - 4.12.15 - Starch, hydroxypropyl)
- Limited by G.M.P.

* Not yet cleared by JECFA

APPENDIX IV

5. HYGIENE AND HANDLING

- 5.1 When tested by appropriate methods of sampling and examination, the product:
- (a) shall be free from microorganisms in amounts which may represent a hazard to health;
 - (b) shall be free from parasites which may represent a hazard to health; and
 - (c) shall not contain any substances originating from microorganisms in amounts which may represent a hazard to health.

5.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable matter.

5.3 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the following codes:

- (i) the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 1);
- (ii) the (Recommended) Code of Practice for Frozen Fish (CAC/RCP 16-1978); and
- (iii) the Draft Code of Practice for Minced Fish (ALINORM 81/18, Appendix VIII).

6. LABELLING

In addition to Sections 1, 2, 4 and 6 of the Recommended International General Standard for the Labelling of Prepackaged Foods (CAC/RS 1-1969) the following provisions apply, subject to endorsement by the Codex Committee on Food Labelling.

6.1 Name of the Food

6.1.1 The name of the food shall be "breaded fish sticks" (fish fingers), "breaded fish portions", "battered fish sticks", (fish fingers) or "battered fish portions" as appropriate or other specific name used in accordance with the law and custom of the country in which the food is sold and in a manner so as not to mislead the consumer.

6.1.2 The label may, in addition, include reference to the species or mixture of species.

6.1.3 In addition there shall appear on the label either the term "quick frozen" or the term "frozen" whichever is customarily used in the country in which the food is sold, to describe a product subjected to the freezing processes as defined in sub-section 2.2

6.1.4 Where the pack contains products which are not reasonably uniform in size, this shall be shown clearly on the label.

6.1.5 The label may show whether the products are prepared from minced fish flesh, fish fillets or a mixture of both.

6.1.6 Products prepared from raw material from which the pin bones are not removed shall be labelled accordingly in close proximity to the name of the food.

6.2 List of Ingredients

A complete list of ingredients, using generic terms where appropriate, shall be declared on the label in descending order of proportion. The provisions of sub-section 3.2(b) and 3.2(c) of the Recommended International General Standard for the Labelling of Prepackaged Foods (CAC/RS 1-1969), shall also apply.

6.3 Net Contents

The net content shall be declared by weight in either the metric system ("Système international" units) or avoirdupois or both systems of measurement as required by the country in which the food is sold.

6.4 Name and Address

The name and address of the manufacturer, packer, distributor, importer, exporter or vendor of the food shall be declared.

6.5 Country of Origin

The country of origin of the product shall be declared if its omission would mislead or deceive the consumer.

6.6 Lot Identification

Each container shall be permanently marked in code or in clear to identify the producing factory and the lot.

6.7 Storage Conditions

The label shall include information on proper storage conditions.

6.8 Cooking Instructions

The label should include cooking instructions.

7. METHODS OF SAMPLING AND ANALYSIS

The methods of sampling and analysis described hereunder are international reference methods which are to be endorsed by the Codex Committee on Methods of Analysis and Sampling.

7.1 Sampling for Destructive Examination

Sampling of lots for examination of the product shall be in accordance with the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL-6.5)(CAC/RM 42-1969).

7.2 Organoleptic Examination

Organoleptic assessment of the product shall be made only by persons trained in such assessment.

7.3 Determination of Net Content

The net weight (exclusive of packaging material) of each sample representing a lot shall be determined in the frozen state. Compliance with net contents declaration shall be determined by averaging the results from all containers of a sample representing a lot.

7.4 Estimation of Fish Flesh Core

The fish flesh core is estimated according to A.O.A.C. method 18.002 (13th Edition 1980) or an alternative method under development.

8. CLASSIFICATION OF DEFECTIVES

8.1 A sample unit of product which fails to meet the requirements of Section 3.2 shall be considered "defective".

9. LOT ACCEPTANCE

A lot will be considered as meeting the final product and weight requirements of this standard when the total number of "defectives" as classified according to Annex C does not exceed the acceptance number (c) of the appropriate sampling plan in the Sampling Plans for Prepackaged Foods (AQL-6.5)(CAC/RM 42-1969) and when the average net contents of all containers examined is not less than the declared weight provided there is no unreasonable shortage in individual containers.

ANNEX "A"

METHODS OF COOKING QUICK FROZEN FISH STICKS (FISH FINGERS) AND
FISH PORTIONS - BREADED OR IN BATTER

The frozen sample shall be cooked prior to organoleptic assessment according to the cooking instructions on the package. When such instructions are not given, or equipment to cook the sample according to the instructions is not obtainable, the frozen sample shall be cooked according to the applicable method(s) given below:

The following procedures are based on procedure 18.003 of the A.O.A.C. (13th Edition 1980). It is based on heating product to an internal temperature $\geq 70^{\circ}\text{C}$ (160°F). Cooking times vary according to size of product and equipment used. If determining cooking time, cook extra sample, using temperature measuring device to determine internal temperature.

In the procedures given below, conversions between metric units and Fahrenheit, inches or ounces have been rounded for ease of measurement. Slight variations in these units are acceptable as long as the product is heated to an internal temperature $\geq 70^{\circ}\text{C}$ (160°F).

PARTIALLY COOKED FISH STICKS (FISH FINGERS) OR FISH PORTIONS (OF ANY SIZE OR SHAPE)

Baking Procedure

Distribute product evenly on a flat cookie sheet or shallow flat pan. Heat in ventilated oven, preheated to 200°C (400°F) until internal temperature of product reaches 70°C (160°F).

RAW BREADED FISH STICKS (FISH FINGERS) (Weight of each stick (finger) as defined in Section 2.1.1)

Shallow Frying

Place liquid or hydrogenated cooking oil to a depth of 3 mm ($1/8''$) in a frying pan. The oil should be hot before adding the product. Cook for 8 minutes turning the product once.

Deep Fat Frying

Use a deep fat fryer with 5 cm ($1\ 7/8''$) of oil preheated to 180°C (360°F) and cook the product for 4 minutes.

Grilling

Space the product evenly on base of grill pan. Grill the product for 10 minutes turning once during this time and adjusting the heat if necessary.

RAW BREADED FISH PORTIONS (Weight of each portion not less than 50g (1.8 oz) and not more than 70 g (2.5 oz))

Shallow Frying

Place liquid or hydrogenated cooking oil in a frying pan to give approximately 6 mm. (1/4") depth. With medium heat of 175°C (350°F), cook the product for 10 minutes turning once.

Deep Fat Frying

Use a deep fat fryer with 5 cm (1 7/8") of oil. Pre-heat the fat to 175°C (350°F) and cook the product for 5 minutes.

An Alternative Method of Cooking

Cooking times vary according to size of the product and equipment used; for battered/breaded products a uniform colour and crispness of the coating have to be obtained as well. Cooking time is based on heating the product to an internal temperature +70°C (according to A.O.A.C. Method 18.003) (13th Edition 1980). Turning shall be carried out twice at -5°C and + 40°C respectively. If determining cooking and turning times, cook extra sample, using temperature measuring device to determine internal temperature. The product shall, before cooking, be adjusted to ca. -18°C to achieve standard cooking conditions.

Shallow frying

Place liquid or hydrogenated cooking oil/fat of neutral taste into a frying pan, preferably with thermostatically adjustable temperature. The melted fat of approximately 3 mm depth shall be preheated to 170°C before adding the product (e.g. the control lamp switches off, when the adjusted temperature is reached, but the samples should not be added before the control lamp switches on again, to come into the heating phase of the pan).

Examples

Fish sticks of 30 g (8.5 x 2.4 x 1.5 cm) take about 6 minutes and should be turned after 1.5 and 4 minutes respectively. Fish portions of 100 g (10 x 6 x 1.8 cm) take about 12 minutes and should be turned after 3 and 8 minutes respectively.

ANNEX "B"

DEFINITION OF DEFECTS IN QUICK FROZEN FISH STICKS (FISH FINGERS)
AND FISH PORTIONS - BREADED OR IN BATTER

Presence of Surplus Loose Coating

An excessive amount of loose breading material in a package.

Excessive Fat (Oil)

Perceptible amounts of oil which have stained the inside of and soaked through the package.

Ease of Separation

Upon removal from the container in the frozen state, units should separate easily by slight force exerted by hand without damage and without packaging material sticking of the surfaces. Coating which is damaged or product units which break as a result of separation by slight hand pressure are considered defective.

Size Uniformity

Size irregularity applied to three types of presentation 2.3(i), 2.3(iii) and 2.3(v) may be caused by improper or non-uniform cutting of a fish block. For fish sticks (fish fingers)

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size uniformity is measured by the difference in the combined length and width between the largest and the smallest stick (finger) in a sample unit. For fish portions irregularity which refers to the three types of presentation 2.3(ii), 2.3(iv) and 2.3(vi) is the difference in the surface area between the largest and smallest portion in a sample unit.

Broken

Broken product has been separated into two or more pieces.

Cracked

A crack is a break in the coating greater than 10 mm which extends into the flesh.

Damaged (other than broken or cracked)

Damaged product has been squashed, mashed or otherwise mutilated to the extent that appearance is materially affected.

Discolouration of Coating

Colour of individual fish sticks (fish fingers) or fish portions whose appearance is significantly different from that of the majority.

Coating Defects (not as a result of ease of separation)

- (i) Raw breaded or partially cooked units - an individual unit which has more than 15% of the surface area devoid of coating.
- (ii) Battered units - an individual unit which has more than 2 cm² of surface area devoid of coating.

Odour and Flavour - (cooked state)

Any flavour or odour which is objectionable, e.g., rancid or tainted.

Texture - (cooked state)

Any texture of the fish flesh (fish core) which is objectionable, e.g., spongy, or rubbery, or mushy, or gelatinous, or gritty or tough.

Foreign Matter

Foreign matter is any material, other than packaging material, not derived from fish or coating.

Discoloured Flesh - (cooked state)

Fish flesh colour not natural to the species of fish used, but does not include blood clots, black membrane, skin or scales which are assessed separately.

Bones

Any bones exceeding the sizes specified in Annex "C". Any bone whose maximum profile can be noted within a rectangle measuring (10 x 3) mm is not regarded as a bone for the purpose of being classified as a defect. Any bone whose maximum profile lies outside a rectangle measuring (40 x 10) mm is regarded as a "critical bone". Any bone whose maximum profile cannot be fitted within a rectangle measuring (10 x 3) mm, but which can be fitted into a rectangle measuring (40 x 10) mm is rated as a bone defect.

Blood Clots

A blood clot greater than 5 mm in any dimension.

Black Membrane (belly wall)

A piece of black membrane (belly wall) greater than 1.5 mm in any dimension.

Parasites

Each parasite with a capsular diameter greater than 3 mm or a parasite not encapsulated and greater than 1 cm in length, or a parasitic infestation which is objectionable by virtue of its colour or any other characteristic.

Skin (does not apply to skin-on forms of presentation)

A piece of skin greater than 1 cm².

Scales

Each aggregate of scale(s) having an area greater than 1 cm².

Viscera

Any portion of the internal organs.

ANNEX "C"

DEFECTS TABLE FOR QUICK FROZEN BREADED FISH FINGERS
(FISH STICKS) AND BREADED FISH PORTIONS

SAMPLE UNIT

If the weight of each fish stick (fish finger) or fish portion is:	A sample unit consists of this number of fish sticks (fish fingers) or portions
--	---

Less than 50 g (1.8 oz.)	10
Over 50 g (1.8 oz.)	5

Consult the sampling plan for prepackaged foods to determine the sample size.

- (i) For packages containing less than 10 fish sticks (50 gm each or less), take multiple packs adequate to yield 10 sticks.
- (ii) For packages containing less than 5 fish portions (50 gm each or greater), take multiple packs adequate to yield 5 portions.

<u>Defect</u>	<u>Unit of Measurement</u>	<u>Defect Categories</u>		
		<u>Serious</u>	<u>Major</u>	<u>Minor</u>
<u>A. FINAL PACK</u>				
<u>Frozen State</u>				
1. <u>Presence of surplus loose coating</u>	Over 0.75% of declared quantity of content - each container	-	-	2

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<u>Defect</u>	<u>Unit of Measurement</u> 10 - sticks) or appropriate 5 - portions) multiples of packs	<u>Defect Categories</u>		
		<u>Serious</u>	<u>Major</u>	<u>Minor</u>
2. <u>Excessive Fat Oil</u>	Each container affected with staining or oil soaked through container	-	-	1
3. <u>Ease of Separation</u>	More than 40% of the sticks (fingers) or portions in a container cannot be separated by hand	defective	-	-
	20-40% of the fingers (sticks) or portions hand-separated with difficulty	4	-	-
4. <u>Size Uniformity</u>				
(a) Fish fingers (sticks) - the difference in the combined length and width between the largest and smallest stick (finger)	Over 20mm	-	-	2
	Over 10mm and up to 20mm	-	-	1
(b) Fish portions - the difference in surface area between the largest and the smallest portion	Over 20% of the difference in surface area	-	-	2
	10-20% of the difference in surface area	-	-	1
5. <u>Broken</u>				
- separated into two or more pieces	Over 20% of sticks (fingers) or over 40% of portions	defective	-	-
- squashed or mashed	20-40% (portions) or 10-20% (sticks)(fingers)	4	-	-
6. <u>Cracked</u>				
- a break greater than 10mm which extends into the flesh	Over 20% of sticks (fingers) or 40% of portions	-	2	-
7. <u>Damaged</u>				
- misshapen or otherwise damaged or mutilated	10-20% (sticks) 20-40% (portions)	-	-	2
8. <u>Discolouration (coating)</u>				
- black or very dark brown	One or more sticks (fingers) or portions in the pack affected	defective	-	-
- colour of some sticks (fingers) or portions significantly different from that of the others	Over 20% of sticks (fingers) or 40% of portions in the pack discoloured	-	-	2

<u>Defect</u>	<u>Unit of Measurement</u> 10 - sticks) or appropriate 5 - portions) multiples of packs	<u>Defect Categories</u>			
		<u>Serious</u>	<u>Major</u>	<u>Minor</u>	
9. <u>Coating Defects</u>					
(a) Fish sticks breaded or partially cooked	Over 20% of sticks affected 10-20% affected	$\overline{\text{defective}}$ $\overline{4}$	-	-	
(b) Fish sticks battered	More than 2 cm ² of the surface area of each stick	-	$\overline{2}$	-	
(c) Fish portions breaded or partially cooked	Over 40% of portions affected 20-40% affected	$\overline{\text{defective}}$ $\overline{4}$	-	-	
(d) Fish portions battered	More than 2 cm ² of the surface area of each portion	-	$\overline{4}$	-	
<hr/>					
B. <u>FISH CONTENT</u>					
<u>Cooked State</u>		(Combined 10 sticks or 5 portions coating removed)			
<hr/>					
			<u>Serious</u>	<u>Major</u>	<u>Minor</u>
1. <u>Odour/flavour</u>	Any stick/portion distinctly objectionable	$\overline{\text{defective}}$	-	-	-
2. <u>Texture</u>	Any stick/portion definitely spongy, rubbery, mushy, tough	defective	-	-	-
	Any stick/portion moderately spongy, rubbery, tough, mushy	4	-	-	-
3. <u>Bones</u>	10mm x 3mm but less than 40mm x 10mm	-	$\overline{4}$	-	-
	Critical bone 40mm x 10mm in any other dimension	defective	-	-	-
4. <u>Discoloured flesh</u>	(flesh not of a colour natural to the species)	Discolouration of more than 20% sticks/40% portions of the fish	defective	-	-
	10-20% (sticks) 20-40% (portions)	4	-	-	-
5. <u>Blood Clots</u>	- greater than 5mm in any dimension	- each instance	-	2	-
6. <u>Black Membrane</u>	(belly wall)	- greater than 1.5mm in any dimension	- each instance	-	2

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<u>Defect</u>	<u>Unit of Measurement</u> 10 - sticks) or appropriate 5 - portions) multiples of packs	<u>Defect Categories</u>		
		<u>Serious</u>	<u>Major</u>	<u>Minor</u>
FISH CONTENT (Cont.)				
Cooked State (Combined 10 sticks or 5 portions coating removed)				
7. <u>Parasites</u> Each parasite with a capsular diameter greater than 3mm or a parasite not encapsulated and greater than 1 cm in length, or a parasite which is objectionable by virtue of its colour or any other characteristic	- each instance	4	-	-
8. <u>Skin</u> pieces greater than 1 cm ²	- each instance	-	2	-
9. <u>Scales</u> - aggregate areas of more than 1 cm ²	- each instance	-	2	-
10. <u>Foreign Matter</u> (any material other than packaging material not derived from fish or coating, or not permitted by the standard)	- each instance	defective	-	-
packaging material	- each instance	-	4	-
11. <u>Viscera</u> (any portion of the internal organs)	- each instance	-	2	-

N.B. When two or more defects appear on a single stick or portion the most serious only shall apply.

DEFECTIVE UNIT

A pack shall be considered a defective if it has:

- (a) more than 4 points for defects classified as serious; or
- (b) more than 12 points for defects classified as major; or
- (c) more than 14 points for defects in the combined classifications (including minor); or
- (d) more than 12 points for defects classified as serious + major; or
- (e) more than 12 points for defects classified as serious + minor; or
- (f) more than 14 points for defects classified as minor; or
- (g) more than 14 points for defects classified as major + minor.

PROPOSED DRAFT STANDARD FOR DRIED SALTED FISH (KLIPPFISH)
OF THE GADOID FISH FAMILIES

1. SCOPE

This standard applies to dried salted fish of the species as defined below and offered for consumption without further processing.

2. DESCRIPTION

2.1 Product Definition

Dried salted fish is the product obtained from fish:

- (a) of the species belonging to the families Gadidae and Merlucciidae; and
- (b) which has been gutted, beheaded, split or filleted, washed, salted and dried. All parts of the fish shall have reached salt/water equilibrium prior to drying.

2.2 Process Definition

Fish for salting and drying shall be subjected to one of the salting processes defined in 2.2.1 and one or both of the drying processes defined in 2.2.2. When the fish is split a cut is made in a straight line close to one side of the backbone from the neck to the caudal fin.

2.2.1 Salting

- (a) Dry Salting (kench curing) is the process of mixing fish with suitable food grade salt and stacking the fish in such a manner that the excess of the resulting brine drains away; and
- (b) Wet Salting (pickling) is the process whereby fish is mixed with suitable food grade salt and stored in watertight containers under the resultant brine (pickle) which forms by solution of salt in the water extracted from the fish tissue. The fish is subsequently removed from the container and stacked so that the brine drains away.

2.2.2 Drying

- (a) Natural Drying - the fish is dried by exposure to sun and wind; and
- (b) Artificial Drying - the fish is dried by heated air in a drier.

2.3 Presentation

Dried salted fish shall be presented, with or without the black membrane (belly lining), scaled or unscaled, in one of the following ways:

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- 2.3.1 Split fish - split and with approximately the anterior two thirds of the backbone removed.
- 2.3.2 Split fish with entire backbone - split with the whole of the backbone intact.
- 2.3.3 Fillets - split and divided longitudinally into two parts and with fins, fin bones, tail, earbones (collar bones) and the whole of the backbone removed.
- 2.3.4 Semi-boneless fillets - split and divided longitudinally into two parts and with fins, fin bones, tail and all bones except the pin bones removed.
- 2.3.5 Boneless fillets - split and divided longitudinally into two parts and with fins, fin bones, tail and all bones, including pin bones, removed.
- 2.3.6 Cuts - split fish or fillets cut up transversely into fairly regular pieces.
- 2.3.7 Other presentation: any other presentation of the product shall be permitted provided that it:
- (i) is sufficiently distinctive from other forms of presentation laid down in this standard;
 - (ii) meets all other requirements of this standard; and
 - (iii) is adequately described on the label to avoid confusing or misleading the consumer.
- 2.3.8 Individual containers shall contain only one form of presentation from only one species of fish.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Raw Material

Dried salted fish shall be prepared from sound fish of the designated species which are of a quality such as to be fit to be sold fresh for human consumption.

3.2 Salt

Salt used to produce dried salted fish shall be clean and not previously used, free from foreign matter and foreign crystals, show no visible signs of contamination with dirt, oil, bilge or other extraneous materials and comply with the requirements laid down in Annex A to this standard.

3.3 Final Product

3.3.1 Appearance

Dried salted fish shall not be completely cracked, ragged or broken, nor shall the

belly wall have been decomposed by the action of liver, bile or gut contents. It shall not be completely pressed together, nor show severe signs of liver staining, severe burning during the drying process, pronounced evidence of halophilic mould (dun) nor visible evidence of red halophilic bacteria (pink).

3.3.2 Odour

Dried salted fish shall have an odour characteristic of the product and shall be free from any objectionable odour.

4. FOOD ADDITIVES

(Subject to endorsement by the Codex Committee on Food Additives).

4.1 Preservatives

Maximum level

Sorbic acid and its calcium,
sodium and potassium salts.

1 g/kg solution for surface treatment only.
0.6 mg/cm² surface of the product.

5. HYGIENE AND HANDLING

5.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the following codes:

- (i) Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969).
- (ii) Recommended International Code of Practice for Fresh Fish (CAC/RCP 9-1976).
- (iii) Recommended International Code of Practice for Salted Fish (under elaboration - ALINORM 78/18A, Appendix X).

5.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable matter.

5.3 When tested by appropriate methods of sampling and examination, the product:

- (a) shall be free from micro-organisms in amounts which may represent a hazard to health;
- (b) shall be free from parasites which may represent a hazard to health; and
- (c) shall not contain any toxic substances originating from micro-organisms in amounts which may represent a hazard to health.

6. PACKAGING

Any container for dried salted fish shall be clean and dry and shall protect the organoleptic and other quality characteristics of the product during storage and transport. It shall not pass on to the product any foreign odour, flavour, colour or other foreign characteristics.

7. LABELLING

(Subject to endorsement by the Codex Committee on Food Labelling).

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In addition to Sections 1, 2, 4 and 6 of the Recommended International General Standard for the Labelling of Prepackaged Foods (CAC/RS 1-1969) the following specific provisions apply:

7.1 Name of the Food

7.1.1 The name of the product as declared on the label shall be "dried salted fish", or "klippfish" or other designations according to the law, custom or practice in the country in which the product is to be distributed. In addition, there shall appear on the label in conjunction with the name of the product, the name of the species of fish from which the product is derived.

7.1.2 For forms of presentation other than described in 2.3.1 "split fish" the form of presentation shall be declared in conjunction with the name of the product in accordance with subsections 2.3.2 to 2.3.6 as appropriate. If the product is produced in accordance with subsection 2.3.7, the label shall contain in close proximity to the name of the food, such additional words or phrases that will avoid misleading or confusing the consumer.

7.2 Net Contents

The total net contents shall be declared by weight in either the metric system ("Système International" units) or avoirdupois or both systems of measurement as required by the country in which the product is sold.

7.3 Name and Address

The name and address of the manufacturer, packer, distributor, importer, exporter or vendor of the product shall be declared.

7.4 Country of Origin

7.4.1 The country of origin shall be declared if its omission would mislead or deceive the consumer.

7.4.2 When the product undergoes further processing in a second country which changes its nature, the country in which the processing is performed shall be considered to be the country of origin for the purpose of labelling.

7.5 Lot Identification

Each container shall be permanently marked in code or in clear to identify the producing factory and the lot.

8. METHODS OF SAMPLING, EXAMINATION AND ANALYSIS

The methods of sampling, examination and analysis described hereunder are international reference methods.

8.1 Sampling

8.1.1 Sampling for Visual and Organoleptic Defects

For those provisions detailed in section 3.3 of this standard, sampling shall be carried out in accordance with the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL 6.5 percent) (CAC/RM 42-1969).

8.1.2 Sampling for Net Weight shall be carried out in accordance with the FAO/WHO Sampling Plans for the Determination of Net Weight (under elaboration).

8.2 Examination of Physical Defects and Organoleptic Assessment

Organoleptic and physical assessment of the product shall be made only by persons trained in such assessment.

9. CLASSIFICATION OF DEFECTIVES

A sample unit shall be considered as a "defective" when it fails to meet the requirements of Sections 3.3.1 or 3.3.2.

10. LOT ACCEPTANCE

A lot will be considered as meeting the final product requirements of this standard when:

- (a) the total number of "defectives" as defined in Section 9 of this standard does not exceed the acceptance number (c) of the appropriate sampling plan in the Sampling Plans for Prepackaged Foods (AQL 6.5) (CAC/RM 42-1969); and
- (b) the average net contents of the lot as determined by appropriate sampling plans for net contents is not less than the declared net contents (sampling plans for net contents to be elaborated).

ANNEX "A"

Specifications for Salt used in the Production of Dried Salted Fish of the Gadidae Species

1. Salt used in the production of dried salted fish shall comply with the "Codex Alimentarius Specifications for Food Grade Salt" (being developed by the Codex Committee on Food Additives).

Notwithstanding this, the additional or different provisions in Sections 2 and 3 below shall apply to salt used in the production of dried salted fish of the Gadidae Species.

2. COMPOSITION

2.1 Total dry matter min. 96%.

2.2 Calcium max. 3 g/kg expressed as Ca.
Magnesium max. 1 g/kg expressed as Mg.

3. CONTAMINANTS

Copper max. 0.1 mg/kg expressed as Cu.
Iron max. 10 mg/kg expressed as Fe.

SUMMARY OF GOVERNMENT COMMENTS

DRAFT STANDARD FOR SALTED AND DRIED GADIDAE

MEXICO:

- (i) It is proposed that the levels of moisture and salt in the product be indicated.
- (ii) Section 2.2.2(b). Artificial drying is not necessary - hot air should be used.
- (iii) Section 3.3.1. The liver should be removed.

(iv) One should consider specifications for large particle sized salt which is used in these processes.

SOUTH AFRICA

2.1 Clause 2.1(b) Product Definition. This para., as worded at present, makes no provision for small head-on dried, salted fish. Hence, we propose the following rewording thereof:

"(b) which has been gutted, with or without beheading, splitting or filleting, and subsequently washed, salted and dried. All parts of the fish shall have reached salt/water equilibrium prior to drying".

2.2 Clause 2.2.1 Salting. We propose that a third salting method be included as follows:

"(c) Brining is the process whereby fish is placed in a watertight container and immersed in saturated brine. Excess salt may be added to ensure that the brine remains saturated. The fish is subsequently removed from the container and stacked on a surface of hygienic construction which would allow the brine to drain away".

2.3 Clause 2.2.2(b) Artificial Drying. We propose that the words "temperature and humidity controlled" be inserted before the word "drier".

2.4 Clause 3.2 Salt. It should be stipulated in this clause that salt should be halophile-free.

2.5 ANNEX A - SPECIFICATION FOR SALT USED IN THE PRODUCTION OF DRIED, SALTED FISH OF THE GADIDAE SPECIES

2.5.1 The limit for copper (0.1 mg/kg) is in our view too stringent. As far as we know a copper requirement of 2.5 mg/kg maximum is widely accepted as being normal for salt for human consumption. Our own standard specification for salt for human consumption specifies a maximum allowable copper content of 2.5 mg/kg. We would be surprised if even vacuum salt has a copper content as low as 0.1 mg/kg maximum.

2.5.2 A maximum count of halophiles per gram of salt should be specified, or complete absence thereof, depending on decision of the meeting.

APPENDIX VI

REPORT OF WORKING GROUP ON HARMONIZATION OF DEFECT TABLES IN CODEX STANDARDS FOR FISH FILLETS (AGENDA ITEM 14) AND FISH BLOCKS (AGENDA ITEM 6)

May 5-6, 1982

The Working Group referred to the Proposed Draft Standard for Quick Frozen Blocks of Fish Fillets, Minced Fish Flesh and Mixtures of Fillets and Minced Fish Flesh (Alinorm 81/18, Appendix III) and to Conference Room Document for the 15th Session, titled "Report of Working Group on Harmonization of Defect Tables in Codex Standards for Fish Fillets, May 3-4, 1982, Agenda Item 14".

The Working Group considered proposals for harmonizing defect definitions, descriptions and demerit points in the reference proposed draft standard for fish blocks of fillets and mixtures of fillets and minced fish with the reference harmonization of similar topics in Codex Standards for fish fillets.

The following delegations and observers were represented in this Working Group:

<u>Name</u>	<u>Country</u>
H. Houwing	The Netherlands
R.E. Mills	Canada
M. McGregor	Republic of South Africa
W. Krane	Germany, Federal Republic
J. Fredriksen	Norway
H. Blokhus	Norway
T.J. Moreau	U.S.A.
F.J. King	U.S.A.
G. Valdimarsson	Iceland
Hjalti Einarsson	Iceland
M.A. Cockerill	U.K.
T. Quinn	U.S.A.

The Chairman was Mr. H. Houwing (The Netherlands) and the Rapporteurs were Dr. F.J. King (U.S.A.) and Mr. R.E. Mills (Canada).

The result of the Working Group's discussions are attached to this report in the form of the attached proposed revised annexes to the proposed draft standard for quick frozen blocks of fish fillets, minced fish flesh and mixtures of fillets and minced fish flesh (ALINORM 81/18, Appendix III).

The physical defect for bone was thoroughly considered from the view of a consumer (dislike for bone in general and dislike for harmful bone), a producer and an inspector. The Working Group's presentation is a compromise among these three viewpoints.

Similar considerations were involved in the Working Group's discussion of fin and part fin.

Three styles are mentioned under bone defect and under fin defect. These styles are intended to be forms of presentation. They are NOT intended to be quality levels. The Working Group suggests that these styles should be placed eventually in the body of a revised standard.

The forms of presentation for bones and fins are:

Style 1. In boneless fillets which are presented as completely boneless (entièrement débarrassé des arêtes) according to the law or custom of the country in which it is sold.

Style 2. In fillets from which bones, including pin bones, have been removed. The product may be presented as boneless (sans arête), boned, deboned, clean cut, or other wording to the law or custom of the country in which it is sold to indicate that it is reasonably free of bones.

Style 3. In fillets from which bones other than pin bones have been removed. The product may be presented in suitable wording according to the law or custom of the country in which it is sold.

The Working Group noted that net weight, dehydration, block irregularity and glaze are determined from the frozen state. It noted that net weight is covered in 7.2.1 and glaze is covered in 7.2.2 of the proposed draft standard instead of in its Annexes.

The Working Group noted that the defect "small pieces" in fillet standards such as the hake fillet standard is not appropriate for a fillet block standard.

Regarding size of a sample unit, the Working Group decided to use an entire fish block for examination in the frozen state, 50 percent of a block or a minimum of 4 kg for examination in the thawed state, and a sub-sample of at least 500 g for examination in the cooked state.

To harmonize the amount of fish flesh derived from fish blocks that is used for examination in the thawed state with the 1 kg sample unit recommended for fish fillet standards, the Working Group proposed demerit points based on 1 kg in Annexes "C" and "D". The number of demerit points obtained in the thawed state (dividing the total number of demerit points by the weight in kilograms of the sample unit) is added to the number of demerit points determined in the frozen state (whole block) on the basis of dehydration and irregularity. The total demerit point score is then used to determine if the block is acceptable to the maximum allowable tolerances specified for each species.

Regarding the defect "colour" in Annex "C", the Working Group noted that it is not defined in Annex "B". It is possible that it applies especially to mixed fillet and minced flesh blocks. It is also possible that it applies to unnatural dark colorations not covered under the defect "Blood Clots and Discoloration". The Working Group decided to remove this "color" defect and to suggest that Governments comment on this decision.

Regarding bone defect the Working Group questioned whether the dimensions used for fillet standards should be the same for fish blocks. It recommends that Governments comment on this subject.

The Working Group considers that the entire tables presented in the Annexes are in square brackets and request that the Committee invite Government comments.

The Working Group considers that the entire tables presented in the Annexes are in brackets and request that the Committee invite Government comments.

ANNEX "B"

"Definition of Defects in Quick Frozen Blocks of Fish Filets and Minced Fish Flesh"

Dehydration (Freezerburn)

(i) Deep dehydration

An excessive loss of moisture from the surface of the sample unit which shows clearly on the surface of the product, penetrates below the surface and cannot be easily removed by scraping.

(ii) Moderate dehydration

A loss of moisture from the surface of the sample unit which is colour masking, but does not penetrate the surface and can be easily removed by scraping.

Block Irregularity

Voids, air pockets, ice pockets, ragged edges, damage, poor angles or non-uniformity of shape which would result in product loss after cutting is estimated by determining the minimum number of 25 g (1 oz.) units which could be adversely affected. For the purpose of estimating product loss, the 25 g (1 oz.) model unit shall have the dimensions

10 x 2.5 x 1.6 cm (4 x 1 $\frac{5}{8}$ in).

Bones (including pin bones and single fin ray).

Bone Defect

A bone defect is a bone or part of bone including single fin bone which is 10 mm or more in length OR 2 mm or more in shaft diameter. However, a bone less than 5 mm in length is not considered a bone defect if its shaft diameter or width is less than 3 mm.

Critical Bone

Each bone including fin bone whose maximum profile can not be fitted into a rectangle, drawn on a flat surface which has a length of 40 mm and a width of 10 mm.

See Annex "F" for methods of measurement.

Fins or Part Fins

(i) Fillet Blocks

(Two or more bones connected by membrane, including internal or external bones, or both, in a cluster).

Nageoires et Fragment de Nageoires

(Rayons extérieurs ou intérieurs des nageoires, réunis en amas de 2 ou plus par une membrane).

(ii) Minced Blocks

Not applicable - shows as bone or membrane or both.

Blood Clot and Discolouration (including bruising)

(i) Fillet Blocks

- Any lump or mass of clotted blood greater than 5 mm in any dimension.
- Any significant discolouration, including bruises, browning, yellowing and melanin deposits which is greater than 3 cm² thereafter.

(ii) Minced Blocks

Any readily noticeable lump or mass of clotted blood or any readily noticeable discoloured area not characteristic of the species used.

Skin, Membrane (Belly Lining), Scales and Spinal Cord

(i) Fillet Blocks

- In the case of skinless fillet blocks, each piece of skin greater than 3 cm², up to and including 10 cm², and every additional complete 5 cm² thereafter.
- In the case of skin-on or skinless fillet blocks, each instance of black membrane (belly lining) greater than 3 cm², up to and including 10 cm², and every additional complete instance 5 cm² thereafter.

(ii) Minced Blocks

Any readily noticeable piece of skin, membrane (black or white) scale or spinal cord.

Parasites

See Annex "G" for procedures to detect parasites.

Each parasite with a capsular diameter greater than 3 mm or a parasite not encapsulated and greater than 10 mm in length.

Each parasite with a capsular diameter smaller than 3 mm or a parasite not encapsulated and smaller than 10 mm in length.

A parasitic infestation may be recognized by its colour, its effect on softening the fish flesh or by other indications.

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Scales

(i) Skin on Fillets - Scaled

Each area of scale over 3 cm² up to and including 10 cm². Each 10 cm² scale, every additional complete 5 cm².

(ii) Skinless Fillets

First 5 to 10 loose scales.

If over 10 loose scales, each additional complete unit of 5 loose scales.

Odour and Flavour

Any odour in thawed state which is distinctly objectionable.

Any odour or flavour in cooked state which is distinctly objectionable.

Texture

Any texture which either in the thawed state or after cooking is definitely not characteristic of the species or is mushy, soft, gelatinous or tough.

Viscera

Any portion of the internal organs.

Foreign Matter

(i) Any material not derived from fish or not permitted by the standard other than packaging.

(ii) Packaging material.

Proportion of Minced Fish

The declared percentage of minced fish in a block, as required in paragraph 6.1.6 and as determined in paragraph 7.2.5 shall be accurate to within $\frac{1}{7}$ % of the net fish content.

ANNEX "C"

Defect Table for Frozen Blocks of Fish Fillets
and Mixtures of Fillets and Minced Fish Flesh

Note: Examination of fish blocks containing a mixture of fillets and minced fish flesh requires the use of this Annex for the fillets and Annex "D" for the minced fish flesh.

Defect Description

Demerit Points

After final examination of a sample unit in the thawed state, convert the result obtained to a 1 kg basis by dividing the total number of demerit points by the number of kilograms of sample examined.

<u>Defect Description</u>	<u>Demerit Points</u>
<u>FROZEN STATE</u> (Entire sample unit block)	
1. <u>Dehydration</u>	
(a) Deep	
(i) Over 10% of surface area	Defective
(ii) Over 1% up to and including 10% of surface area	4
(b) Moderate	
(i) Over 10% of surface area	2
2. <u>Block Irregularity</u> - by minimum number of units affected	
(a) 2-5% loss	1
(b) >5-10% loss	2
(c) Each additional 10% loss	2
<u>THAWED STATE</u> (50% of a sample block or a minimum of 4 kg)	
3. <u>Bone, fin, part fin and single fin ray</u>	
(a) Style 1 fillet block each bone regardless of size each critical bone	8 Defective
(b) Style 2 fillet block each bone defect each critical bone	2 Defective
(c) Style 3 fillet block each bone defect each critical bone	2 Defective
4. <u>Blood Clots and Discoloration (including bruising)</u>	
(a) Each <u>clot</u> greater than 5 mm in any dimension	2
(b) Each <u>significant discoloration or bruising</u> at least 3 cm ² up to and including 10 cm ²	4
(c) Over 10 cm ² , each additional complete 5 cm ²	2
5. <u>Skin and Membrane</u>	
(a) Skinless blocks	
(i) Each instance of skin and black membrane greater than 3 cm ² up to and including 10 cm ²	4
(ii) Each additional complete instance of 5 cm ²	2
(b) Skin-on Blocks	
(i) Each piece of black membrane greater than 3 cm ² up to and including 10 cm ²	4
(ii) Each additional complete instance of 5 cm ²	2
6. <u>Scales</u>	
(a) Skin-on fillets scaled	
(i) Each area of scales greater than 3 cm ² up to and including 10 cm ²	2
(ii) Over 10 cm ² scales each additional complete 5 cm ²	2

<u>Defect Description</u>		<u>Demerit Points</u>
(b) <u>Skinless Fillets</u>		
(i)	First 5 to 10 loose scales	2
(ii)	If over 10 loose scales, each additional complete unit of 5 loose scales	2
7.	<u>Viscera</u>	
	Each instance	8
8.	<u>Parasites</u>	
(i)	Each large parasite as defined	4
(ii)	Each small parasite as defined	2
(iii)	Parasitic infestation Each fillet affected	8
9.	<u>Foreign Matter</u>	
(i)	Other than packaging material each instance	Defective
(ii)	Packaging material each instance	2
10.	<u>Odour</u> (raw) distinctly objectionable	Defective
11.	<u>Texture</u> (raw) distinctly objectionable	Defective
<u>COOKED STATE</u> (Use sub-sample of at least 500 g (1 lb))		
12.	<u>Odour or Flavour</u>	
	Distinctly objectionable	Defective
13.	<u>Texture</u>	
	The flesh is definitely spongy, or rubbery, or mushy, or gelatinous, or tough	Defective

Maximum Allowable Tolerance for Defects

Demerit point totals calculated on a 1 kilogram basis should be recorded to the nearest whole number.

A sample unit is considered defective if the demerit points total more than $\overline{20}$ for species of the family Gadidae (cod, haddock and hake) and $\overline{32}$ for species of the family Scorpaenidae (red fish) or the order Pleuronectiformes (flatfish).

ANNEX "D"

DEFECT TABLE FOR FROZEN BLOCKS OF MINCED FISH FLESH

<u>Defect Description</u>		<u>Demerit Points</u>
<u>FROZEN STATE</u> (Sample is entire block)		
1.	<u>Dehydration</u>	
(a)	Deep	
(i)	Over 10% of surface area	Defective
(ii)	Over 1% up to and including 10% of surface area	4
(b)	Moderate, over 10% of surface area	2
2.	<u>Block Irregularity</u>	
(a)	2-5% loss - by minimum number of units affected	1
(b)	>5-10% loss - by minimum number of units affected	2
(c)	each additional 10% loss - by minimum number of units affected	2

<u>Defect Description</u>	<u>Demerit Points</u>
<u>THAWED STATE</u> (50% of sample block or a minimum of 4 kg)	
3. <u>Bone</u>	
Each bone defect	2
Each critical bone	Defective
4. <u>Blood clots, discoloration, skin, membrane, scale, spinal cord.</u>	
(a) 10-25 instances	2
(b) 26-40 instances	4
(c) over 40 each additional 15 instances	2
5. <u>Parasites</u> - each instance	4
6. <u>Foreign Matter</u>	
(i) Other than packaging material - each instance	Defective
(ii) Packaging Material - each instance	2
7. <u>Odour</u> (raw) distinctly objectionable	Defective
8. <u>Texture</u> (raw) distinctly objectionable	Defective
<u>COOKED STATE</u> (sub-sample at least 500 g)	
9. <u>Odour and Flavour</u> distinctly objectionable	Defective
10. <u>Texture</u> - distinctly objectionable	Defective
<u>Maximum Allowable Tolerance for Defects</u>	

Demerit point totals calculated on a 1 kilogram basis should be recorded to the nearest whole number.

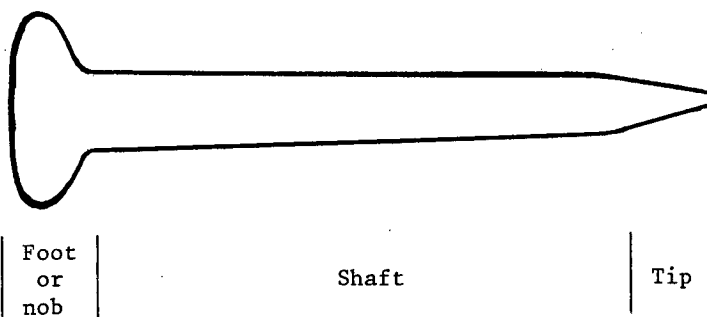
A sample unit is considered defective if the demerit points total more than (20).

ANNEX "F"

Measurement of Bone Defect

Definition of shaft diameter

Pictorial:



Descriptive:

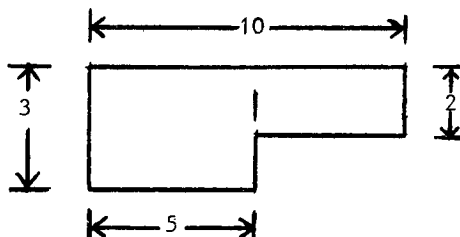
Shaft diameter is the maximum width of a bone as measured above its foot (knob) and below its tip.

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Suggested Methods of Measuring for Bone Defects.

- Choice 1 Measure dimensions with a caliper and ruler, a micrometer, or an equivalent instrument.
- Choice 2 Draw parallel lines on a piece of paper to indicate maximum allowable dimensions.
- Choice 3 Draw a rectangle on a flat solid surface which has the maximum allowable dimensions.
- Choice 4 Draw a figure on a flat solid surface which has the maximum allowable dimensions.
For example:



ANNEX "G"

Candling Procedure for Detection of Parasites

Parasites are detected by placing a sample on a 5 mm thick acryl sheet with 45% translucency and candled with a light source giving 1500 lux 30 cm above the sheet.

Parasitic infestation may be detected by this candling procedure, by visual examination or by any other suitable method.

REPORT OF WORKING GROUP ON HARMONIZATION OF DEFECT TABLES IN CODEX STANDARDS
FOR FISH FILLETS
May 3-4, 1982

The following delegations and observers were represented in the working group:

<u>Name</u>	<u>Country</u>
M. McGregor	Republic of South Africa
T.C. Bennett	Republic of South Africa
Jan Fredriksen	Norway
J. Gjerde	Norway
H. Blokhus	Norway
M.A. Cockerill	United Kingdom
W. Krane	Germany, Federal Republic
R.E. Mills	Canada
H. Houwing	The Netherlands
Mme F. Soudan	France
F.J. King	U.S.A.
Arne Sjöqvist	Sweden
Hjalti Einarsson	Iceland

The Chairman of the Working Group was Mr. H. Houwing (The Netherlands) and the rapporteur was Dr. F.J. King (U.S.A.)

The Working Group considered proposals for harmonizing defect definitions, descriptions and demerit points in four present Codex Standards for Frozen Fish Fillets; Cod/Haddock, Ocean Perch, Flatfish and Hake. The results of their considerations are presented in the attached Annex. Considerations related to specific defects are summarized in the following paragraphs.

The physical defect for bone was thoroughly considered from the view of a consumer (dislike for bone in general and dislike for harmful bone), a producer and an inspector. The Working Group's presentation is a compromise among these three viewpoints.

Similar considerations were involved in the Working Group's discussion of fish and part fin.

Three styles are mentioned under bone defect and under fin defect. These styles are intended to be forms of presentation. They are NOT intended to be quality levels. The Working Group suggests that these styles should be placed eventually in the body of a revised standard.

The forms of presentation for bones and fins are:

- Style 1 In boneless fillets which are presented as completely boneless (entièrement débarrassé des arêtes) according to the law or custom of the country in which it is sold.
- Style 2 In fillets from which bones, including pin bones, have been removed. The product may be presented as boneless (sans arête), boned, deboned, clean cut, or other wording according to the law or custom of the country in which it is sold to indicate that it is reasonably free of bones.
- Style 3 In fillets from which bones other than pin bones have been removed. The product may be presented in suitable wording according to the law or custom of the country in which it is sold.

The Working Group was aware that the physical defect, ragged and torn fillets, appears in the hake fillet standard, but not in the other fillet standards. It was aware that this defect may appear as a result of filleting machine problems, as well as biological condition of the fish, also a necessity for trimming fillets to remove parasites, blood clots and other discolorations, and removal of V-cuts. Moreover, the Working Group questioned how to measure this defect of appearance and requests the Committee to invite Government comments.

After considering these specific defects, the Working Group added Maximum Allowable Tolerances to the Defect Table for each standard. Recognizing that several changes were made to this Table, the Working Group put these Maximum Allowable Tolerances in square brackets. The purpose of this step is to invite Government comments.

The Working Group also considers that the entire table presented in the Annexes is in square brackets and requests that the Committee invite Government comments on it.

PROPOSAL FOR HARMONIZATION OF RECOMMENDED DEFECTS TABLES IN STANDARDS FOR
QUICK FROZEN FILLETS OF COD/HADDOCK, OCEAN PERCH, FLAT FISH AND HAKE

DRAFT REPORT OF THE HARMONIZATION WORKING GROUP

DEFINITION OF DEFECTS	DEFECT DESCRIPTION	DEMERIT POINTS (1kg sample unit)			
		COD/HADDOCK	OCEAN PERCH	FLAT FISH	HAKE
<u>Dehydration (Freezerburn)</u>					
(i) Deep dehydration An excessive loss of moisture from the surface of the sample unit which shows clearly on the surface of the product, penetrates below the surface and cannot be easily removed by scraping.	Over 10% of surface are Over 1% up to and including 10% of surface area	Defective 4	Defective 4	Defective 4	Defective 4
(ii) Moderate dehydration A loss of moisture from the surface of the sample unit which is colour masking, but does not penetrate the surface and can be easily removed by scraping	Over 10% of surface are	2	2	2	2
<u>Foreign Matter</u>					
(i) Any material not derived from fish or not permitted by the standard other than packaging	Each instance	Defective	Defective	Defective	Defective
(ii) Packaging material	Each instance	2	2	2	2
<u>Viscera</u>					
Any portion of the internal organs	Each instance	8	8	8	8
<u>Parasites</u>					
	Parasites or parasitic infestation detected by the candling procedure Any parasite or parasitic infestation detectable on a 5 mm thick acryl sheet with 45% translucency, and candled with a light source giving 1500 lux 30 cm above the sheet				

DEFINITION OF DEFECTS	DEFECT DESCRIPTION	DEMERIT POINTS (1kg sample unit)			
		COD/HADDOCK	OCEAN PERCH	FLAT FISH	HAKE
<p>Each parasite with a capsular diameter greater than 3 mm or a parasite not encapsulated and greater than 10 mm in length (>3 mm or >10 mm in length)</p> <p>Each parasite with a capsular diameter smaller than 3 mm or a parasite not encapsulated and smaller than 10 mm in length (>3 mm or <10 mm in length)</p> <p>A parasitic infestation</p>	Each instance	4	4	4	4
	Each instance	2	2	2	2
	Detected by the candling procedure or by other suitable means. Each fillet affected	-	-	-	8
<p><u>Bruises</u></p> <p>Diffused blood causing distinct reddish, brownish or grayish off-coloration</p>	Each instance > 3 cm ² - < 10 cm ²	4	4	4	4
	Each additional complete 5 cm ²	2	2	2	2
<p><u>Discoloration</u></p> <p>Appears as significantly intense discoloration due to melanin deposits, bile stains, liver stains, or other causes</p>	Each instance 3 cm ² - 10 cm ²	4	4	4	
	Each additional complete 5 cm ²	2	2	2	
<p><u>Blood Clots (spots)</u></p> <p>Any lump or mass of clotted blood</p>	Each instance > 5 mm in any dimension	2	2	2	2
<p><u>Black Membrane (belly lining)</u></p> <p>(does <u>NOT</u> include white membrane)</p>	Each instance greater than 3 cm ² up to and including 10 cm ²	4	4	4	4
	Each additional complete instance 5 cm ²	2	2	2	2
<p><u>Bones</u> (including pin bone and single fin ray)</p> <p><u>Applies to Styles 1, 2 and 3</u></p> <p>A bone defect is a bone or part of a bone which is 10,0 mm or more in length OR 2,0 mm or more in shaft diameter. However, a bone less than 5,0 mm in length is not considered a bone defect if its shaft diameter or width is less than 3,0 mm</p>	<p><u>Style 1</u> Any defect Critical bone</p>	8 Defective	8 Defective	8 Defective	8 Defective
	<p><u>Style 2</u></p> <p>Each bone defect Critical bone</p>	2 Defective	2 Defective	2 Defective	2 Defective

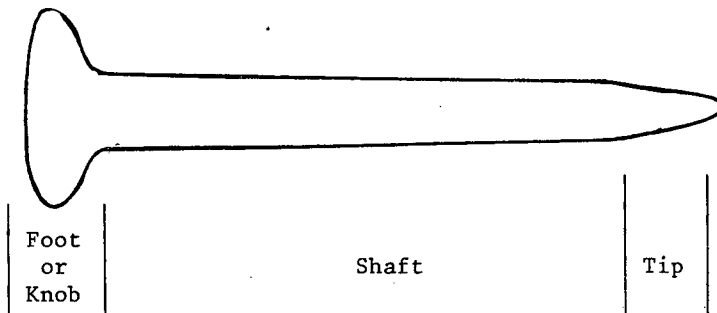
DEFINITION OF DEFECTS	DEFECT DESCRIPTION	DEMERIT POINTS (1kg sample unit)			
		COD/HADDOCK	OCEAN PERCH	FLAT FISH	HAKE
<p><u>Applies to Style 1 only</u></p> <p>A small bone found in a sample unit which is not considered a bone defect in Style 2 or Style 3</p> <p><u>Critical degree of bone defect</u> (applies to all Styles). Each bone defect whose maximum profile can NOT be fitted into a rectangle, drawn on a flat solid surface, which has a length of 40,0 mm and a width of 10,0 mm (400 square mm). Does not include pin bones of any size in Style 3</p>	<p><u>Style 3</u></p> <p>Each bone defect, excluding pin bones</p> <p>Critical defect excluding pin bones</p>	2	2	2	2
		Defective	Defective	Defective	Defective
<p><u>Fins or part of fins</u></p> <p>(Two or more bones connected by membrane, including internal or external bones, or both, in a cluster)</p> <p><u>Nageoires et fragment de nageoires</u></p> <p>(Rayons extérieurs ou intérieurs des nageoires, réunis en amas de 2 ou plus par une membrane)</p>	<p><u>Style 1</u></p> <p>Each fin or part of fin cluster 3 cm² or less (chaque nageoire ou fragment de nageoire jusqu'à 3 cm² inclus)</p> <p>Each instance</p> <p>If over 3 cm² each additional complete 3 cm² (au delà de 3 cm², chaque surface supplémentaire de 3 cm²)</p> <p>Each additional instance</p> <p><u>Style 2 and Style 3</u></p> <p>Each instance</p> <p>Each additional instance</p>	4	4	4	4
		4	4	4	4
		4	4	4	4
		2	2	2	2
<p><u>Scales</u></p>	<p><u>Skin on fillets - scaled</u></p> <p>Each area of scale >3cm² - <=10cm²</p> <p>Over 10cm² scale, every additional complete 5 cm²</p>	2	2	2	2
		2	2	2	2

DEFINITION OF DEFECTS	DEFECT DESCRIPTION	DEMERIT POINTS (1kg sample unit)			
		COD/HADDOCK	OCEAN PERCH	FLAT FISH	HAKE
	<u>Skinless fillets</u> First 5 to 10 loose scales If over 10 loose scales, each additional complete unit of 5 loose scales	2 2	2 2	2 2	2 2
<u>Odour and Flavour</u> Objectionable odour in thawed state Objectionable odour or flavour in cooked state	An odour which is distinctly objectionable An odour or flavour which after cooking is distinctly objectionable	Defective Defective	Defective Defective	Defective Defective	Defective Defective
<u>Texture</u> Any texture which either in the thawed state or after cooking is not characteristic of the species	Definitely not characteristic of the species or is mushy, soft, gelatinous or tough	Defective	Defective	Defective	Defective
<u>Skin</u> (skinless fillets) Does <u>NOT</u> include subcutaneous layer (silver lining)	Each piece $> 3 \text{ cm}^2 - \leq 10 \text{ cm}^2$ Over 10 cm^2 each additional complete 5 cm^2	4 2	4 2	4 2	4 2
<u>Small pieces</u> (not applicable to fillets cut from blocks) A fillet piece weighing less than 30 g	If the sample unit came from a pack of 1 kg or greater, each occurrence over 1 piece If the sample unit came from a pack less than 1 kg per pack, each occurrence over one piece per pack	4 4	4 4	Note: 4 small piece defined as under 25 g 4	4 4
<u>Ragged or torn fillets</u> Longitudinal edges markedly and excessively irregular	Each instance	-	-	-	1
A sample unit is considered defective if the demerit points total more than		(20)	(32)	(32)	(20)

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Note: Definition of shaft diameter

Pictorial:



Descriptive:

Shaft diameter is the maximum width of a bone as measured above its foot (knob) and below its tip.

Note: Suggested Methods of Measuring for Bone Defects

Choice 1

Measure dimensions with a caliper and ruler, a micrometer, or an equivalent instrument.

Choice 2

Draw parallel lines on a piece of paper to indicate maximum allowable dimensions.

Choice 3

Draw a rectangle on a flat solid surface which has the maximum allowable dimensions.

Choice 4

Draw a figure on a flat solid surface which has the maximum allowable dimensions.
For example:

