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CODEX ALIMENTARIUS COMMISSION

Ninth Session  
Rome, November 1972

REPORT OF THE

CODEX COMMITTEE ON FISH AND FISHERY PRODUCTS

Sixth Session  
4 - 8 October 1971

Bergen, Norway

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Introduction

1. The Codex Committee on Fish and Fishery Products held its Sixth Session in Bergen, Norway, from 4 to 8 October 1971 by courtesy of the Government of Norway. Dr. O.R. Brækkan, Norway, was in the chair.
2. The Chairman welcomed the participants in the name of the Director-General of Fisheries of Norway.
3. Representatives from 30 countries were present:

Algeria	Italy
Argentina	Japan
Australia	Mexico
Belgium	Morocco
Brazil	Netherlands
Canada	Norway
Congo, Dem. Rep. of	Poland
Cuba	Portugal
Denmark	South Africa (observer)
Egypt, Arab Rep. of	Spain
France	Sweden
Germany, Fed. Rep. of	Thailand
Ghana	United Kingdom
Iceland	United States of America
Ireland	Yugoslavia

Observers were present from the following international organizations:

Association of Official Analytical Chemists (AOAC)  
 Association des Industries de Poisson de la CEE (AIPCEE)  
 European Economic Community (EEC)  
 European Federation of Importers of Dried Fruits, Preserves,  
 Spices and Honey (FRUCOM)  
 Institut International du Froid (IIF)

The list of participants is contained in Appendix I to this Report.

Election of Rapporteur

4. On the proposal of the Chairman, the Committee appointed Mr. D.L. Orme (U.K.) as Rapporteur of the Session.

Adoption of Provisional Agenda

5. The Committee adopted the Provisional Agenda.

Matters arising from the Report of the 8th Session of the Codex Alimentarius Commission (July 1971)

6. The Secretariat informed the Committee that at the request of the Codex Committee on Labelling, the Commission had again and at length discussed the question of the designation "quick-frozen" and "frozen" (paras. 115 to 116 of the Report of the Commission). The Commission had agreed that the titles of the standards for Fillets of Cod and Haddock and of Ocean Perch under discussion at step 8 of the Procedure should read Quick-Frozen Fillets of Cod and Haddock and Quick-Frozen Fillets of Ocean Perch respectively. The Commission also decided to make appropriate changes in the standards to bring these into line with what had been agreed upon

in the Recommended International Standard for Quick Frozen Peas (CAC/RS 41-1970) and subsequently for other quick-frozen products. Thus a footnote will appear in the text which will read as follows:

" 'Frozen': This term is used as an alternative to 'quick-frozen' in some English-speaking countries."

The English words 'frozen' and 'quick-frozen' shall appear as a footnote to the French and Spanish texts. (Para. 144 of the Report of the Commission).

7. The Committee was further informed that the Commission had agreed to attach the optional defect tables to the standards, expressing the hope that governments would be in a position to advise in due course on the usefulness of the tables and on the suitability of the demerit points to be awarded for each defect. It was also noted that the Commission had amended item 4 of the defect table pertaining to nematodes. (Paras. 145-146 of the Report of the Commission).

8. The Committee noted that the Commission had agreed to adopt the Standard for Quick-Frozen Fillets of Cod and Haddock and also accepted - with a few small additional amendments - the Standards for Quick-Frozen Fillets of Ocean Perch at Step 8 of the Procedure for the Elaboration of Codex Standards. (Paras. 147 and 149 of the Report of the Commission).

9. It was brought to the attention of the Committee that following an intervention by the delegate of Australia, the Commission had requested this country to prepare a working paper for consideration by the Committee with technological details about "frozen" fish products in contrast with "quick-frozen" products and to provide data on the extent of international trade of the product. On the basis of this study the Committee could consider whether it would be preferable (paras. 150 & 151 of the Report of the Commission).

- (i) to have only one standard and retain the present quick-freezing process definition, thereby excluding the coverage by the standards of products frozen by another process;
- (ii) to have the "quick-frozen" product standards cover "frozen" products too;
- (iii) to develop separate standards for "frozen" products.

10. The Committee was further informed that after ample discussion the Proposed Draft Standard for Canned Tuna and Bonito in Water or Oil was advanced to Step 6 of the Procedure with the instruction by the Commission that the standard should not be advanced to Step 8 of the Procedure until the Committee was satisfied that it had satisfactorily resolved the problems on all matters of substance, in particular the matter of the species of fish to be covered by the standard.

11. The Committee took note of the Commission's decision that the Executive Committee at its next session (June 1972) should consider the question of possible duplication of work and overlap as between the FAO Codes of technological practice for fish and various fishery products and Codex Codes of hygienic practice presently being developed by the Codex Committee on Food Hygiene. (See paras. 158, 194 and 195 of the Report of the Commission). The discussions of the Committee on this matter are recorded in paras. 88-89 of this Report.

Matters arising from the Report of the 7th Session of the Codex Committee on Food Additives (October 1970)

12. The Committee took note of the decision of the Food Additives Committee that it would generally refer any references to good manufacturing practice (GMP) relating to maximum permitted levels for food additives back to the relevant Committee and would request that precise levels be suggested (para. 23 of ALINORM 71/12).

13. The Committee was further informed on the work presently undertaken by the Food Additives Committee regarding the "Carry-over-Principle" and the implications which this might have for certain fishery products standards currently under elaboration (paras. 116 and 117, and Appendix VII of ALINORM 71/12).

14. The Committee noted the status of a number of additives with which the Food Additives Committee had dealt (paras. 49 & 50, and App. II part G, nos. 86-104, ALINORM 71/12). The Committee was informed that, in the event of new data becoming available, the Joint FAO/WHO Expert Committee on Food Additives would be asked to re-evaluate the use of Orange GGN, Ponceau 6 R and Azorubine for use with canned shrimps and prawns (para. 48 of ALINORM 71/12).

Matters arising from the Report of the 8th Session of the Codex Committee on Food Hygiene (June 1971)

15. The Committee was informed that the Food Hygiene Committee had endorsed the hygiene provisions for the standards for Quick Frozen Fillets of Cod and Haddock and Ocean Perch. It was also noted that for terminally sterilized products such as Canned Tuna and Bonito additional provisions were considered necessary (paras. 33-35 of ALINORM 72/13).

Matters arising from the 6th Session of the Codex Committee on Food Labelling (June 1971)

16. The Committee took note of the recommendation by the Labelling Committee to give careful consideration to keeping, storage and thawing instructions, when considering the labelling provisions of quick-frozen fish products (para. 35 of ALINORM 71/22).

Matters arising from the Report of the 6th Session of the Codex Committee on Methods of Analysis and Sampling (January 1971)

17. The Committee took note of the status of work undertaken by the Committee on Methods of Analysis regarding the determination of total mercury and organic mercury compounds. The proposal by the Committee on Methods of Analysis to consider the use of a towel to remove all external water from fish fillets to determine the net contents of products covered by glaze, was also noted (para. 58 of ALINORM 71/33). The Committee decided to deal with these points under the appropriate parts of the agenda (see paras. 94-97 and 36 of this Report).

18. The Committee at the request of the Committee on Methods of Analysis, agreed to prepare a synopsis for all methods of analysis used in the Standards developed for quick-frozen fish products. The Secretariat was asked to prepare such a list (para. 59 of ALINORM 71/23).

Matters arising from the Report of the 5th Session of the Codex Committee on Pesticide Residues

19. The Committee was informed that the Committee on Pesticide Residues had agreed that, for the time being, the tolerances established for raw food commodities should also normally apply to processed products, including frozen and canned products (paras. 21 and 22 of ALINORM 71/24).

20. The Committee noted that the Committee on Pesticide Residues had decided to return the proposed tolerance for DDT in fish to Step 6 of the Procedure and had agreed that the practical residue limit of 7 ppm should be expressed on a whole product basis. It was further noted that governments had been requested to provide more data on the residues of DDT in Fish as well as on methods of analysis used (paras. 48 and 49 of ALINORM 71/24).

DRAFT STANDARD FOR FROZEN FILLETS OF PLAICE AND SIMILAR SPECIES OF FLAT FISH

Title and Scope

21. The Committee had before it the draft Standards (ALINORM 71/18, Appendix IV) which had been returned to step 6 of the Procedure at its fifth session, for a second round of Government comments, specifically on the list of species of flat fish to be covered.

22. The Committee discussed at some length the list of species, including the additions suggested in Government comments. The delegate of France suggested that the scientific nomenclature of the species should be considered by expert groups of biologists (e.g. the International Council for the Exploration of the Sea). The delegations of USA and UK proposed and the Committee accepted, that the scope of the draft standard should be amended to refer to the order of fish instead of species. The title was therefore amended to read: "Draft General Standard for Quick-Frozen Fillets of Flat Fish", and the scope section amended to read: "This standard shall apply to quick frozen fillets of edible species of the order Pleuronectiformes (Heterosomata) offered for direct consumption without further processing. It does not apply to the product indicated as intended for further processing or for other industrial purposes". The product definition sub-section (a) was amended as follows: "Quick-frozen fillets of flat fish are obtained from fish of any edible species of the order mentioned above".

#### Process Definition

23. The delegations of Sweden and Fed. Rep. of Germany repeated the view that the term "low temperature", was too vague and needed to be defined by the insertion of an upper limit.

24. The Committee decided to retain the provision for the process definition as drafted, but noted the view of the delegation of Canada that the wording of the second and third sentences was insufficiently precise, since it was capable of more than one interpretation.

#### Final product

25. Sub-section 3.2.1 (a). The Committee agreed, after some discussion, to insert a reference to part fins in this section and to replace the word "nematodes" by the word "parasites". The Committee noted that in the United Kingdom, "black membrane" was not regarded as defect.

26. Sub-section 3.2.1 (c). The Committee agreed that the minimum weight of an undesirably small fillet piece should be reduced from 30 g to 25 g.

27. Sub-section 3.2.1 (d). The Committee decided to add, at the end of the sub-section, the words "without unduly affecting the quality and appearance of the product".

#### Defects Table

28. Following the decisions recorded in paragraph 22 above, the Committee agreed to amend the title of the table to bring it into line with that of the standard. Item 4 was retitled "Parasites" and divided into two parts: "Nematodes" - for which the draft as amended in line with the other fish fillet standards was retained - and "Other parasites" - for which provisions would be elaborated as information became available. The Committee also agreed to include a definition for part fins as follows: "Part fins are 2 or more rays connected by membrane".

29. Discussion of the applicability of the Defects Table revealed that while many countries had checked the provisions and found them to be satisfactory, others had some reservations. The delegations of Denmark and Sweden considered that the total points for a defective sample should be 16 instead of 24, as far as plaice was concerned. The delegation of France considered that further experience with the table was necessary before final views could be given.

30. The Committee agreed that all countries should carry out further tests and that Governments should be asked to submit detailed comments on the results before the next meeting particularly with regard to the new scope provision.

31. The delegation of Japan repeated its view that in principle the standard should not contain any recommendation and therefore after the Defects Table had been satisfactorily tested it should be changed from advisory to mandatory.

### Food Additives

32. The delegation of Argentina repeated their position regarding the prohibition on the use of the listed additives in Argentina.

33. The Fed. Rep. of Germany stated that the use of poly-phosphates was not considered necessary for fish and fishery products, and was not allowed in their country. The delegate of Denmark proposed that the various phosphates should be declared on the label under the group name "phosphates" since no functional group name could be suggested. It was pointed out that the Codex Committee on Food Labelling had requested that those Codex Committees which had phosphate requirements in their standards, should provide information regarding the functional use of phosphates in their products and types of phosphates used, and that this information should be sent for consideration to the Codex Committee on Food Additives so that it might develop suitable class names for these products.

### Labelling

34. The delegation of Sweden reiterated its opinion that the label must indicate clearly to the consumer how the product should be stored in order to maintain the quality until the moment of consumption. They also pointed out that they were opposed to the use of code marking on retail packs. The Committee noted that the Codex Committee on Food Labelling intended to examine the problem of date marking at its next session.

### Name of the food

35. The delegation of the Netherlands proposed that the last part of this section should be amended to read as follows: "Packs of fillets cut from blocks which may contain a number of small pieces in excess of the number permitted in sub-section 3.2.1 (c) may be labelled as fillets of . . . . , provided that such labelling is customarily used in the country where the products are to be sold, and provided that for that reason the product will be recognized by the consumer as such". However, the Committee decided to maintain the existing text which made it clear to the consumer whether the fillet came from a block or otherwise. The Committee also agreed to amend sub-section 6.1.3 in order to bring it into line with the other frozen fish standards.

### Net contents

36. The delegation of the Netherlands stated that as the net content could not be accurately established, even using a towel, a maximum limit for glaze should be specified and proposed that sub-section 6.3.2 should be amended to read as follows: "Where products have been glazed the maximum amount of glaze should not exceed 15% regardless of the methods used". The observer from the AIPCEE supported this proposal. The Committee decided that the net weight should be exclusive of glaze and that the present text should be retained .

### Country of origin

37. The delegation of Argentina repeated its general view which it had made for all Codex Commodity Standards, regarding the declaration of the country of origin, namely, that this declaration should be mandatory as it was compulsory on pre-packaged food-stuffs in their country.

38. The Committee noted that the Codex Committee on Food Labelling had discussed the problem of interpretation of this requirement in relation to the producer and the importing country and that further consideration was to be given to this matter.

### Lot Identification

39. Several delegations thought that this section needed revision since the title and the text appeared unrelated. It was suggested that the term "lot" needed to be defined as it was not clear whether or not it included all products manufactured at the same time, from the same material, and with the same equipment. It was pointed out that a lot could consist of several batches. The observer from the AIPCEE stated

that his organization was in favour of an indication in code of the date of production on the label. They could not in any event accept an indication of the expiry date. In the light of the discussion the Committee decided to amend the title to read "Date Marking and Identification" and to maintain the existing text.

#### Methods of Examination and Analysis

40. The Committee agreed to some slight rewording of Annex A, Cooking Methods, and the amended revision appears in the revised version of the standard.

#### Status of the Standard

41. In the light of the substantial amendments to the text, the Committee agreed to retain the standard at Step 6 and to send it to governments for further specific comments, especially on the Defects Table and its applicability to species within the order Pleuronectiformes (Heterosomata). The revised text of the Standard is contained in Appendix II to this Report.

#### PROPOSED DRAFT STANDARD FOR FROZEN SHRIMPS OR PRAWNS

42. The Committee had before it the above standard at Step 4 of the Procedure. (Appendix VI to ALINORM 71/18). The Committee agreed to amend the title of the standard to include the word "quick" in conformity with the decision of the Commission.

#### Scope

43. The Committee agreed to amend the scope section in the same way and also to insert after the first phrase the clause "..... and offered for direct consumption without further processing". The delegation of Ireland raised again the need to make a suitable provision in the Standard that would allow the continued use of such traditional names as Dublin bay prawn for the species 'Nephrops norvegicus'. The observer from South Africa mentioned that similarly the species 'Nephrops andamanica' was in international trade as a prawn. The Committee recognized that in some countries there existed a traditional practice of using the word "prawn" in common names for species, which in fact were not true prawns, such as 'Nephrops norvegicus' and 'Nephrops andamanica'. It was therefore decided to delete the reference to 'Nephrops norvegicus' and to add to the standard an Annex (A) to allow for the traditional use of such designations.

44. The Committee discussed the possible need to have separate standards for the raw product and the heat treated product. It was decided that a single standard would suffice and that the Hygiene Section would have to be revised to take the different products into account.

#### Description

45. The Committee agreed to amend section 2.3.3. by deleting the word "(cleaned)" from the sub-paragraph relating to round and deveined, and by adding reference to the removal of veins in sub-paragraphs (iii) - (iv). Section 2.3.4 was similarly amended.

46. Section 2.3.5 was amended to relate the definition of "Pieces" to the size of the shrimps or prawns.

#### Essential Composition and Quality Factors

##### Raw Material

47. The Committee agreed to amend section 3.1 by adding the clause: "..... and be of such a quality that they are suitable for human consumption".

##### Ingredients

48. The Committee discussed this section and decided to add salt and to allow the various ingredients to be used in other freezing media. Regarding "sugars" the Committee decided to specifically request Governments to indicate which sugars were used.

### Glazing

49. The delegation of the USA proposed that any medium used for glazing other than water should be microbiologically acceptable. The Committee agreed to amend the section accordingly, and request the Codex Committee on Food Hygiene to review the revised provision.

### Count

50. A number of delegations were of the opinion that the count provision in the standard went into too great detail. It was thought that where an indication on the label of the number of shrimps or prawns per unit of weight or per retail unit was made, it would suffice that the product complied with the specification. The delegation of USA pointed out that a large proportion of the international trade in quick frozen raw headless shrimps was effected on the basis of the table as reproduced in the standards. The Committee decided to retain in the standard the existing provision but also to include an alternative provision drawn up by the delegations of France and UK, and to request Governments to comment as to their preference, on the details of the count table, and on whether similar tables might be necessary for cooked products.

### Defects and Tolerances

51. As a full list of defects was given in Annex B of the Standard the Committee decided to delete the separate section on "Defect factors" and to retitle the Tolerance section "Defects and Tolerances".

### Food Additives

52. The delegation of Australia proposed that the addition of sulphite compounds and ascorbic acid be permitted in order to inhibit the development of blackspot in the post-harvest treatment. The delegation of Japan supported this proposal. Several delegations proposed that phosphates be permitted in the food additives section of the standard. The delegation of France objected to such an "inclusion" on the grounds that there were no technological justifications for their use and also because of the overall increase in the diet through the increasing use of phosphates in other foods. The delegation of Iceland proposed that in order to improve the appearance of the finished product certain colours should be permitted. After considerable discussion the Committee agreed to include ascorbic acid, phosphates and colours subject to endorsement by the Codex Committee on Food Additives, in the standard and the revised text appears in Appendix IV to this report. Governments would be requested to comment on these substances and whether they should be permitted in both the raw and cooked products.

### Hygiene

53. The Committee agreed to extend this section to accommodate the heat treated products covered by the Standard. The Committee decided to request the Codex Committee on Food Hygiene to propose a suitable text. (see paragraph 44)

### Weights and Measures

54. The delegate of the UK proposed and the Committee agreed to delete this Section since sub-sections 6.4 and 7.2 seemed to cover the issue.

### Name of the Food - Style of Presentation

55. The Committee agreed that this section should be redrafted in order to make a clear distinction between the various raw and cooked styles of presentation and also so as to bring it into line with section 2.3 Presentation. The delegation of the USA proposed, and the Committee agreed to the inclusion of a new section containing cooked products stating that an indication of the degree of cooking should appear on the label. It was considered that such a declaration would provide a much greater degree of consumer protection. The section referring to "Nephrops norvegicus" was deleted in line with the Committee's previous decision relating to the scope of the standard (see paragraph 43 of this Report).



### Lot Identification

56. In line with the change made in the standard for Quick Frozen Fillets of Flat Fish, the Committee decided to change the title of this sub-section to: "Date Marking and Identification".

### Bulk Packs for Retail Units

57. The Committee decided to delete this sub-section as the provision did not seem necessary.

### Thawing

58. The Committee agreed to re-insert the thawing method previously contained in the Standard and to request Governments to comment on the proposed method.

### Organoleptic Examination

59. The Committee agreed to a proposal by the delegation of the USA that organoleptic assessment should be made only by qualified persons, and the section was amended accordingly.

### Determination of Net Contents of Products Covered by Glaze

60. The Committee decided to specify that for samples up to 500 g in weight a sieve with a diameter of 20 cm would suffice. For larger samples a sieve with a 30 cm diameter was recommended. The Committee agreed to delete the reference to the construction of the sieves.

### Classification of Defectives

61. The Committee agreed to the addition of a section relating to a classification of defectives to the standard and to a revision of the defects table and tolerance levels set out in Annex B to the standard.

### Lot Acceptance

62. The Committee agreed to the addition of a section setting out the criteria for lot acceptance.

### Status of the Standard

63. The Committee agreed to return the standard to Step 3 of the Procedure for a further round of Government comments. The revised text of the Standard is contained in Appendix IV to this Report.

### PROPOSED DRAFT STANDARD FOR CANNED CRAB MEAT

64. The Committee had before it the above Proposed Draft Standard (ALINORM 70/18, Appendix VII) for consideration at Step 4 of the Procedure.

### Scope

65. The delegation of Norway stated that it was common practice in Norway to include ovaria in the main canned crab products and queried whether this product would be covered by the Standard. The Committee noted that this was a recognized practice in several European countries. The Committee agreed that these products were specialties to which the Standard did not apply.

### Product Definition

66. The delegation of the U.K. proposed that the definition should include all edible species of the section Brachyura of the order Decapoda and all species of the family Lithodidae. The Committee agreed to this proposal and amended the provision accordingly.

### Presentation

67. The Committee agreed to an introductory sentence similar to that in the Draft Standard for Flat Fish: "Canned crab meat may be presented as:"

### Two End Leg Pack and One End Leg Pack

68. The Committee agreed to delete the reference to other terms covering the same forms of pack. The delegation of Japan proposed and the Committee agreed to reword the provision to read: "..... the content of the pack shall consist of leg meat, or leg meat together with either claw or shoulder meat ...". Some delegations questioned the proportions of merus meat and flakes, particularly as a tolerance was allowed in the Two End Leg Pack. The Committee decided to ask Governments to comment on the proportions and the tolerance proposed.

### Ingredients

69. The Committee agreed to amend the provision to read: "The packing medium, where used, may only consist of water and salt."

### Processing

70. The Committee discussed at some length the necessity of including a processing provision in the standard. It was decided to shorten the text and provide only brief details of processing.

### Canned Products

71. The delegation of Japan proposed to extend the section and specify a number of quality criteria. The Committee agreed to include these supplementary provisions.

### Food Additives

72. The delegation of the USA proposed to include aluminium sulphate and phosphoric acid in the list of additives. The Committee agreed that they should be added to the list and requested the U.S. delegation to furnish the technological justification for the use of these additives and suggest limits. The delegations of France and the Fed. Rep. of Germany reserved their positions as regards the inclusion of phosphates and calcium disodium EDTA. The delegation of Japan reserved its position on the latter additive.

### Hygiene

73. The Committee, bearing in mind the changes made in the hygiene provisions by the Food Hygiene Committee to the Draft Standard for Canned Tuna and Bonito in water or Oil, decided to enlarge the Section to contain specific microbiological provisions.

### Weights and Measures

74. The Committee considered the written comments by the Japanese delegation to include a new provision for Net Contents, bearing in mind that there were two types of packs: a dry pack and a pack in brine. The Committee agreed with the additional provision.

### The name of the food

75. On the proposal by the delegation of the USA the Committee decided to delete the reference in this provision to certain species and designations. The following text was agreed on: "The name of the product is 'crab meat' preceded or followed by the common or usual species name legally accepted in the country where the product is offered for retail sale".

### Presentation

76. The delegations of Canada and the USA observed that in view of the deletions of the alternative descriptive terms in sub-section 2.2 the various forms of pack had to be specified in this provision. The Committee agreed to list the different forms of presentation.

### Net Contents

77. Taking into account the two types of packs (dry pack and pack in brine), the Committee decided to add a sentence to this provision specifying that when no fluid was added to the pack the contents would be declared as net content, whereas for the pack in brine the contents would be declared as drained weight. The title was amended to read: "Net Contents/Drained weight".

### Lot Identification

78. In line with its previous decisions on this sub-section the Committee decided to amend the title to read: "Date Marking and Identification".

### Sampling for Destructive Examination

79. The Committee revised the wording of this provision in the light of the acceptance by the Commission of the Report on Sampling Plans (ALINORM 71/17).

### Vacuum Test

80. In the absence of specific provisions relating to vacuum the sub-section had little meaning. Moreover, the revised section on Hygiene took into account specific microbiological provisions. The sub-section was therefore deleted.

### Determination of Drained Weight

81. The delegation of France considered the introductory sentence of this provision as inaccurate. The Committee noted that the Codex Committee on Labelling would discuss the problem of net contents at its next session.

### Determination of Water Capacity of Container

82. The delegation of France, supported by the delegation of Morocco, proposed to replace the method as contained in the proposed draft standard by the ISO Method (ISO 90), as it considered this method to be more accurate. A number of delegations were of a different opinion and thought that the ISO method was unsuitable as it was not considered to be practical in view of its requirement for sealed empty cans. After discussion, the Committee agreed to put both methods into the standard and request Governments to comment as to which method should be preferred.

### Determination of Net Content

83. Taking into consideration the distinction made between the dry pack and the pack in brine - as reflected in the amendment of sub-section 7.4 - an introductory sentence similar to the one for drained weight (8.2) was inserted.

### Classification of Defectives

84. The Committee agreed to a proposal by the delegation of Japan for a text for this provision.

### Lot Acceptance

85. The Committee had before it a proposal by the delegation of Japan for a wording to cover lot acceptance. The Committee adopted the proposed text.

### Status of the Standard

86. The Committee agreed to advance the Standard to Step 5 of the Procedure for submission to the Commission. The Standard as revised is attached as Appendix III to this Report.

PROPOSED DRAFT STANDARD FOR FROZEN FILLETS OF HAKE

87. The Committee had before it the proposed draft standard prepared by Spain (CX/FFP 71/2) and a paper containing comments by South Africa (Conference Room Document 1). As the format of the standard differed somewhat from that used for other quick frozen fillets of fish standards, the Committee requested the Secretariat to redraft the paper in the light of comments received and circulate it at Step 3 of the Procedure.

CODES OF PRACTICE

88. The FAO Fisheries Department representative informed the Committee of the progress to date of the FAO Codes of Technological Practice compiled by Ad Hoc Consultations. The Committee was further informed of the Commission's decision to refer the question of possible duplication of work and overlap between these Codes and the Codes of Hygienic Practice for fish and fishery products (as prepared by the Codex Committee on Food Hygiene), to the Executive Committee, whose next meeting would be held in June 1972. It was stated that the Fisheries Department of FAO would be prepared to elaborate hygiene provisions to existing and future Codes if this was the wish of the Committee and the decision of the Executive Committee.

89. Upon the suggestion of the delegation of the U.S.A., the Committee agreed:

- (i) to advise the Commission that, in its opinion, the principle of a single code incorporating both technological and hygienic aspects was most desirable for fishery products; and
- (ii) that FAO, through Ad Hoc Consultation, had a unique capability for drafting technological codes and recommended acceleration of this work.

The Committee also considered that:

- (iii) such codes as drafted by FAO should be referred to it for consideration as regards their suitability for entering into the Codex Procedure;
- (iv) it should refer codes acceptable to it to the Codex Committee on Food Hygiene for review, evaluation, and any necessary amplification of the hygienic recommendations contained therein; and
- (v) at such time as the two Committees concerned were satisfied with the content of the combined codes, they should jointly submit them to the Commission.

CANNED SARDINES AND SARDINE TYPE PRODUCTS (Working paper prepared by the U.K. delegation)

90. Some delegations stated that the French translation of the above named working paper CX/FFP 71/5 had not been received by them until shortly before the meeting, and that they had not been able to study the document. It was therefore proposed that the discussion of this complex matter should be postponed until the next meeting of the Committee.

91. The delegation of Brazil, whilst not seeking to open a detailed discussion, set out their historical reasons for considering Sardinella aurita as "sardine" and also pointed out that the method of processing and presentation, rather than the species processed, should be the criterion for the use of the term "sardine". The delegation of Ghana endorsed the views expressed on the Sardinella aurita.

92. The delegation of the UK suggested that an edited version of the rather large working paper might facilitate comments and future discussion, and undertook to prepare a version of the Working Paper incorporating only the suggested provisions and editorial comments contained in the Working Paper.

93. The Committee agreed to postpone consideration until the shorter version of the Working Paper was available and that this version would form the basis for discussion.

NEED FOR PROVISIONS FOR METALLIC CONTAMINANTS IN VARIOUS FISH STANDARDS

94. The Committee had before it a paper, prepared by the Norwegian Secretariat, on the need for provisions for metallic contaminants in various fish standards (CX/FFP 71/6). During the discussion of the paper several delegations explained the research and investigations which had been carried out, and which were being undertaken, in their countries.

95. The facts put before the Codex Committee on Fish and Fishery Products may be summed up as follows:

- 1) The report of the Joint FAO/WHO Expert Committee on Food Additives (1970) (World Health Organization Technical Series, 1970, No. 458) put strong emphasis on the Japanese poisoning cases, which were very local and caused by extreme pollution of fish.
- 2) The report recognizes that there are insufficient data on which to assign an acceptable daily intake (ADI) to mercury. An ADI is a value of imperative importance for the calculation of a permissible level for mercury in fish and fishery products. The Expert Committee had recognized that the toxicological data available to it did not permit a conclusion on the hazards of trace amounts of mercury, let alone the levels of trace amounts in specific foods. This problem also includes the question of different forms of mercury. Work is now in progress in many countries to establish a sound scientific basis for an ADI.
- 3) A permitted level of mercury in fish and fishery products must be based on an ADI. It should, however, be emphasized that the levels may differ from one country to another, in accordance with the place of fish in the national diets and the species and products being consumed.
- 4) Several countries have, however, established guidelines or interim levels, varying from 0.5 to 1.0 ppm in some cases combined with dietary recommendations. The majority of countries have not issued any advice or regulation.
- 5) In connection with international trade, the question of a common method of analysis needs to be resolved. Analysis of mercury and other heavy metals in trace amounts usually requires sophisticated and complex methods and equipment.
- 6) Literature data and survey data from member countries made available to the Secretariat indicate that:
  - (i) The vast majority of marine fish and shellfish have very low levels of mercury.
  - (ii) Levels of mercury in both fresh water and marine fish may vary with species, geographical area of catch and water pollution levels. For some species a certain relationship to the size is observed, larger and older fish tending to show higher values.
  - (iii) Analysis of samples of some species taken over a number of years indicates that the mercury in fish arises not only from pollution but also from natural sources.

96. The Committee observed that if any steps being taken to reduce all forms of environmental pollution of inland, coastal and oceanic waters, were to benefit world fisheries, there was a need to press ahead with all possible speed. The Committee saw a need for the collection of further data on heavy metal contamination, and on natural levels of heavy metals in the environment, including information on the metabolism of heavy metals in the food chain in fresh and marine waters.

97. The Committee considered that, because of the insufficiency of biological data and the lack of an ADI, it was unable to recommend the inclusion of any reference to metallic contaminants in Codex standards for fish and fishery products.

### FUTURE WORK

98. The Committee had before it a working paper on Future Work, prepared by the Norwegian Secretariat (CX/FFP 71/7). It was noted that the agenda for the next session would probably include the consideration of:

- |    |       |   |        |                                 |
|----|-------|---|--------|---------------------------------|
| A. | (i)   | Draft Standard for<br>Canned Tuna and Bonito in Water or Oil    | Step 7 | ALINORM 71/18<br>Appendix V     |
|    | (ii)  | Draft General Standard for<br>Quick Frozen Fillets of Flat Fish | Step 7 | ALINORM 72/18<br>Appendix II    |
|    | (iii) | Proposed Draft Standard for<br>Quick Frozen Shrimps or Prawns   | Step 4 | ALINORM 72/18<br>Appendix IV    |
|    | (iv)  | Revised Proposed Draft Standard for<br>Quick Frozen Hake        | Step 4 | CX/FFP 72/2*                    |
|    | (v)   | Working Paper on<br>Canned Sardines and Sardine Type Products   |        | CX/FFP 71/5 and<br>CX/FFP 72/3* |

The Committee also agreed to consider at a future session:

- |    |       |   |        |   |
|----|-------|---|--------|---|
| B. | (i)   | Proposed Draft Standard for<br>Quick Frozen Crayfish and Lobsters                           | Step 2 | Australia with France<br>and South Africa |
|    | (ii)  | Proposed Draft Standard for<br>Canned Mackerel in Brine or Oil                              | Step 2 | Portugal with<br>Japan                    |
|    | (iii) | Proposed Draft Standard for<br>Quick Frozen Blocks of Cod, Haddock,<br>Hake and Ocean Perch | Step 2 | Canada with<br>Norway                     |

### OTHER BUSINESS

#### Proposals for amendment of Recommended Codex Standards

99. The Committee had before it Conference Room Document No. 3 which contained a proposal by the delegation of Sweden for an amendment of the Recommended Standard for Canned Shrimps or Prawns. The proposal was to delete in the Food Additives section 4.1.2 the colour Beta-carotene and to replace it by the colour Canthaxantine C.I. 75135. The justifications for this amendment were as follows: (i) Canthaxantine 75135 is a food colour of natural origin which had been given an ADI according to ALINORM 70/43, Appendix VII, p. 137 and is thus toxicologically evaluated for food usage, and (ii) Canthaxantine is technologically a very suitable substance for the colouring of canned shrimps or prawns (R.H. Bunnell and B. Borenstein, Food Technology, Vol. 21, 1967, p. 13A-16A).

100. The delegation of the USA proposed that the extended provisions, as elaborated by the Codex Committee on Food Hygiene, relating to microbiological requirements should also be included in the Recommended standards for canned shrimps and prawns and canned Pacific salmon.

101. The Committee agreed to the proposed amendments and decided to submit them to the Commission for consideration.

#### Can Seams

102. The observer from South Africa pointed out that Codex standards for canned fish products, prepared or under preparation, did not contain requirements relating to can seam quality. As the keeping quality of canned products, both from the physical and bacteriological points of view, could not be separated from can seam quality, the desirability of the inclusion of such requirements in Codex standards for canned fish products should be seriously considered. An opportunity should therefore be created to allow for Government comments. The Committee agreed with this proposal.

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\* To be distributed in January 1972.

Date and Place of Next Meeting

103. The Committee noted that its next meeting was scheduled by the Commission to be held in October 1972, and that the next sessions of the Commission would be held in November 1972 and early 1974. It was noted that according to this schedule standards considered by the Committee at its next session would in all probability not be able to be considered by the Commission until 1974. The Chairman agreed to take this point into account when fixing the date of the next session and to look into the possibilities of holding the meeting earlier in the year.

104. In this connection it was pointed out that Governments should send their comments on the standards to the Norwegian Secretariat with the least possible delay in order to allow for their distribution in adequate time for the meeting.

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SUMMARY STATUS OF WORK

(prepared by the Codex Alimentarius Commission Secretariat)

1. STANDARDS AND PAPERS UNDER CONSIDERATION BY THE COMMITTEE

(See para. 98 of this Report)

2. MATTERS OF INTEREST TO OTHER COMMITTEES

Codex Committees	Paragraphs
- Executive Committee	88, 89
- Quick Frozen Foods	23, 24
- Food Additives	33, 52, 72, 94, 97, 99, 101
- Food Labelling	33, 34, 37, 38, 81
- Methods of Analysis and Sampling	36, 94, 97
- Food Hygiene	44, 53, 49, 73, 100, 101
- Pesticide Residues	20

3. WORK UNDERTAKEN BY VARIOUS COUNTRIES AND SECRETARIAT

- (i) Technological details on "frozen" fish products in contrast with "quick frozen" products, and data on extent of international trade of the frozen product.  
Australia (See para. 9 of this Report and paras. 150 and 151 of the Report of the 8th Session of the Commission - ALINORM 71/31)
- (ii) Synopsis for all methods of analysis in the Standards for Quick Frozen Fish products.  
Secretariat (See para. 18 of this Report)
- (iii) Technological justification for the use of certain additives, and proposal for limits.  
United States of America (See para. 72 of this Report)
- (iv) Revised Proposed Draft Standard for Quick Frozen Fillets of Hake.  
Secretariat in consultation with Spain, Japan and South Africa (See para. 87 of this Report)
- (v) Canned Sardines and Sardine Type Products (abbr. version of doc. CX/FFP 71/5).  
United Kingdom (See para. 92 of this Report)
- (vi) Various Proposed Draft Standards at Step 2 of the Procedure.  
Australia, Portugal and Canada respectively (See para. 98 B of this Report)

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DRAFT GENERAL STANDARD FOR  
QUICK FROZEN FILLETS OF FLAT FISH  
(returned to Step 6 of the Procedure for  
a further round of Government comments)

1. SCOPE

This standard shall apply to quick frozen fillets of edible species of the order Pleuronectiformes (Heterosomata) offered for direct consumption without further processing. It does not apply to the product indicated as intended for further processing or for other industrial purposes.

2. DESCRIPTION

2.1 Product Definition

- (a) Quick frozen fillets of flat fish are obtained from fish of any edible species of the order mentioned above.
- (b) Fillets are slices of fish of irregular size and shape which are removed from the carcass by cuts made parallel to the backbone and sections of such fillets cut so as to facilitate packing.

2.2 Process Definition

The product 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 unless and until the product temperature has reached  $-18^{\circ}\text{C}$  at the thermal centre after thermal stabilization. The product shall be maintained at a low temperature such as will maintain the quality during transportation, storage and distribution up to and including the time of final sale.

The recognized practice of repacking quick frozen products under controlled conditions followed by the re-application of the quick freezing process as defined is permitted.

2.3 Presentation

Fillets shall be presented as:

- (a) skin-on; or
- (b) skinless; or
- (c) skin-on, on white side only.

The fillets may be presented as boneless, provided that boning has been completed.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

- 3.1 Quick frozen fillets of flat fish shall be prepared from sound fish of the designated order which are of a quality such as to be fit to be sold fresh for human consumption.

3.2 Final Product

- 3.2.1 (a) The fillets shall be free from foreign matter and all internal organs and shall be reasonably free from ragged edges, tears and flaps, fins or part fins, significantly discoloured flesh, blood clots, black membrane (belly wall), parasites and, where appropriate, skin, scales and bones.
- (b) After cooking by steaming, baking or boiling as set out in Annex A the product shall have a flavour characteristic of the species and shall be free from any objectionable flavour and odour, and its texture shall be firm and free from abnormal conditions such as chalkiness and milkiness.
- (c) The final product shall be free from undesirably small fillet pieces unless their presence is necessary to make up the weight of the pack. A piece weighing less than 25 g is classed undesirably small. The maximum number of small fillet pieces permitted is one per pack weighing less than 250 g and no more than 4 per kg in packs of 250 g or more except as provided for in sub-section 6.1.1.

(d) The final product shall be free from deep dehydration (freezerburn) which cannot easily be removed by scraping without unduly affecting the quality and appearance of the final product.

Note: A recommended table of physical defects for optional use with consignments of the final product with an AQL of 6.5 is appended as Annex B.

#### 4. FOOD ADDITIVES

The following provisions in respect of food additives and their specifications as contained in Section of the Codex Alimentarius have been endorsed by the Codex Committee on Food Additives:

<u>Additive</u>	<u>Maximum level of use</u>
Monophosphate, monosodium or monopotassium (Na or K orthophosphate)	5 g/kg of the final product expressed as P <sub>2</sub> O <sub>5</sub> , singly or in combination
Diphosphate, tetrasodium or tetrapotassium (Na or K pyrophosphate)	
Triphosphate, pentasodium or pentapotassium or calcium (Na, K or Ca tripolyphosphates)	
Ascorbate, potassium or sodium salts	1 g/kg of the final product expressed as ascorbic acid

#### 5. HYGIENE

It is recommended that the product covered by the provisions of this standard be prepared in accordance with the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969).

#### 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 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 the name according to the law, custom or practice in the country in which the product is to be distributed. Fillets cut from blocks which may possibly contain a number of small pieces in excess of the number permitted in sub-section 3.2.1(c) may be labelled as fillets of ..... provided that such labelling is customarily used in the country where the products are to be sold and provided the product is identified to the consumer so that he will not be misled.

6.1.2 The label may, in addition, include reference to the presentation as skin-on or skinless and/or boneless, as appropriate. This shall be included if the omission of such labelling would mislead the consumer.

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 process as defined in sub-section 2.2.

##### 6.2 List of Ingredients

6.2.1 A complete list of ingredients shall be declared on the label in descending order of proportion. The provisions of sub-sections 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

\* "frozen": This term is used as an alternative to "quick frozen" in some English speaking countries.



- 6.3.1 The 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 food is sold.
- 6.3.2 Where products have been glazed the declaration of 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.
- 6.5 Country of Origin
- 6.5.1 The country of origin of the food shall be declared if its omission would mislead or deceive the consumer.
- 6.5.2 When the 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 Date Marking and Identification  
There may be an indication in code or in clear of the date of production, that is, the date the final product was packaged for final sale.

## 7. METHODS OF EXAMINATION AND ANALYSIS

### 7.1 Thawing

The sample is thawed by enclosing it in a film type bag and immersing in an agitated water bath held at approximately 20°C (68°F). The complete thawing of the product is determined by gently squeezing the bag occasionally so as not to damage the texture of the fish, until no hard core or ice crystals are felt.

### 7.2 Cooking

Methods for cooking the product by steaming, baking or boiling are set out in Annex A of this standard.

### 7.3 Determination of Net Contents of Products Covered by Glaze

The method of analysis described hereunder is an international referee method which is to be endorsed by the Codex Committee on Methods of Analysis and Sampling.

As soon as a package is removed from low temperature storage open immediately and place the contents under a gentle spray of cold water. Agitate carefully so that the product is not broken. Spray until all ice glaze that can be seen or felt is removed. Transfer the product to a circular No. 8 sieve 20 cm (8 inches) in diameter for samples weighing less than 900 g (2 pounds) and 30 cm (12 inches) for those more than 900 g (2 pounds). Without shifting the product incline the sieve at an angle of approximately 17-20° to facilitate drainage, and drain exactly 2 minutes (stop watch). Immediately transfer the product to a tared pan and weigh (Methods of Analysis of AOAC 18.001).

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COOKING METHODS

ANNEX A

#### Steaming

Steam the sample in a closed dish over boiling water for about 35 minutes if frozen, or for about 20 minutes after thawing the product. The dish should be covered and should be kept in a water bath at +60°C (+140°F) during testing.

#### Baking

Place the sample in a baking pan lined with aluminium foil. Cover the pan with a sheet of aluminium foil and crimp the foil around the edges of the top of the pan. Place the pan and contents in a pre-heated oven maintained at 230°C (450°F) until cooking is completed. This requires about 20 minutes.

Boiling in Bag

Place the thawed sample 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 fillet sample reaches 70°C (160°F) which requires about 20 minutes. Remove the boiled product from the pouch and drain.

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ANNEX B

RECOMMENDED DEFECT TABLE - QUICK FROZEN FILLETS OF FLAT FISH

This table and the maximum allowable number of demerit points are based on an AQL of 6.5. The defect table is not to be applied to individual packs but to consignments in association with a suitable sampling plan. Demerit points are awarded for each occurrence as listed below, e.g.

	One bone	5 mm or less = 1 point	
	Two bones	5 mm or less = 2 points	
1.	<u>Bones</u>		
	(a) <u>Boneless Fillets</u>		
	5 mm or less in any dimension		1
	Greater than 5 mm up to and including 30 mm in any dimension		4
	Greater than 30 mm in any dimension		8
	(b) <u>Fillets not designated as boneless</u>		
	Bones greater than 10 mm in any dimension		4
2.	<u>Discolouration</u>		
	Each significantly intense discolouration of the flesh over 5 cm <sup>2</sup> up to and including 10 cm <sup>2</sup>		2
	Over 10 cm <sup>2</sup> , every additional complete 5 cm <sup>2</sup>		1
3.	<u>Blood Clots</u>		
	Each piece greater than 5 mm in any dimension		4
4.	<u>Parasites</u>		
	a. <u>Nematodes</u>		
	Each nematode with a capsular diameter greater than 3 mm or each worm not encapsulated, greater than 1 cm in length, or each worm which is objectionable by virtue of its dark colour or any other characteristic		4
	b. <u>Other Parasites</u>		
	(To be elaborated in the light of government comments)		
5.	<u>External Fins or Part Fins</u>		
	(Part fins are 2 or more rays connected by membrane)		
	Each fin or part fin 3 cm <sup>2</sup> or less		4
	Over 3 cm <sup>2</sup> , every additional complete 3 cm <sup>2</sup>		4
6.	<u>Skin (Skinless Fillets)</u>		
	Each piece greater than 3 cm <sup>2</sup> up to and including 10 cm <sup>2</sup>		4
	Over 10 cm <sup>2</sup> , every additional complete 5 cm <sup>2</sup>		2
7.	<u>Black Membrane (Belly Wall)</u>		
	Each piece greater than 5 cm <sup>2</sup> up to and including 10 cm <sup>2</sup>		4
	Over 10 cm <sup>2</sup> , every additional 5 cm <sup>2</sup>		2

A sample of one kilogramme will be considered defective if the demerit points total more than 24.

PROPOSED DRAFT STANDARD FOR CANNED CRAB MEAT  
(Advanced to Step 5 of the Procedure)

1. SCOPE

This standard applies to canned crab meat and does not apply to speciality products where the crab meat constitutes only a part of the edible contents.

2. DESCRIPTION

2.1 Product Definition

Canned Crab Meat is the processed leg, claw, body and shoulder meat from which the shell has been removed, of any of the edible species of the section Brachyura of the order Decapoda and all species of the family Lithodidae. The crab meat, being wrapped or not for instance in parchment paper, is packed in hermetically sealed containers and so processed with heat as to prevent spoilage.

2.2 Presentation

Canned crab meat may be presented as:

2.2.1 Two End Leg Pack

The top and the bottom of the content of the pack shall consist of leg meat or leg meat together with either claw or shoulder meat, having their original conformation except merus meat which may be cut according to can width. The pieces should appear well arranged with the large pieces of merus meat placed in the middle between small leg meat, claw or shoulder meat pieces.

The inner portion of the content of the pack shall consist of solid pieces of crab meat and flakes. For the Two End Leg Pack the amount of merus meat shall be not less than 23%, and flakes not more than 40% of the total drained weight. A tolerance of  $\pm 10\%$  of the specified amount of merus meat and flakes shall be allowable.

2.2.2 One End Leg Pack

Either end of the content of the pack shall consist of leg meat or leg meat together with either claw or shoulder meat, having their original conformation. The pieces should appear well arranged. The remaining content shall consist of solid pieces of crab meat and flakes.

2.2.3 Chunk Pack - consists of solid pieces of crab meat and flakes.

2.2.4 Flake Pack - consists of flakes only.

2.2.5 Lump Pack - consists of large segments of crab meat from the back fin cavity.

2.2.6 Claw Pack - consists of claw meat.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Raw Material

Canned crab meat shall be prepared from clean and sound crab, which is suitable for human consumption.

3.2 Ingredients

The packing medium, where used, may only consist of water and salt.

3.3 Processing

The crab shall be cooked and the meat shucked. Damaged or discoloured meat associated with bruises or small wounds shall be removed. The meat shall be cleaned, wrapped or not, and packed.

3.4 Canned Product

(a) Appearance

On opening the cans shall appear well filled. The finished product shall have a good appetizing appearance and its colour shall be a colour characteristic of the species and be free from extraordinary discolouration, e.g. blue discolouration, browning or black spots.

(b) Odour and Flavour

Canned crab meat shall have a good characteristic odour and flavour of the species and proper salinity and be free from objectionable odours of any kind.

(c) Texture

Canned crab meat shall have characteristic texture and not be mushy.

(d) Shell Residues

Canned crab meat shall to the extent practicable under good practice of production be nearly free of carapaces, leg and antennae. Tendon may be overlooked.

(e) Struvite crystal

Canned crab meat shall be nearly free of struvite crystal.

4. FOOD ADDITIVES

The following provisions in respect of food additives and their specifications as contained in Section of the Codex Alimentarius are subject to endorsement by the Codex Committee on Food Additives:

<u>Additives</u>	<u>Maximum level of use</u>	
Calcium disodium EDTA	250 mg/kg	} of the final product, singly or in combination
Sodium hexametaphosphate	1000 mg/kg	
Sodium pyrophosphate	5000 mg/kg) as P <sub>2</sub> O <sub>5</sub>	
Citric acid	?	
Tartaric acid	?	
Monosodium glutamate	800 mg/kg	
Aluminium sulphate	?	
Phosphoric acid	?	

5. HYGIENE

- 5.1 It is recommended that the product covered by the provisions of this standard be prepared in accordance with the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969).
- 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 capable of development under normal conditions of storage; and
  - (b) shall not contain any substances originating from micro-organisms in amounts which may be toxic.

- 5.4 Products with an equilibrium pH above 4.5 shall have received a processing treatment sufficient to destroy all spores of Clostridium botulinum, unless growth of surviving spores is permanently prevented by product characteristics other than pH.

6. WEIGHTS AND MEASURES

6.1 Net Contents (dry pack)

Containers shall be filled so that the net contents by weight will be more than 80% of the water capacity of the container.

6.2 Drained Weight (pack in brine)

Containers shall be filled so that the drained weight of the crab meat will be not less than 70% of the water capacity of the container.

7. 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 specific provisions which have to be endorsed by the Codex Committee on Food Labelling shall apply:

7.1 The Name of the Food

The name of the product is "crab meat" preceded or followed by the common or usual species name legally accepted in the country where the product is offered for retail sale.

7.2 Presentation

The forms of the pack as described in 2.2 shall be declared as follows:

- 7.2.1 - Twin-face pack
- 7.2.2 - Single-face pack
- 7.2.3 - Chunks and flakes
- 7.2.4 - Flakes
- 7.2.5 - Lump meat
- 7.2.6 - Claw meat

7.3 List of Ingredients

A complete list of optional ingredients shall be declared on the label in descending order of proportion.

7.4 Net Contents/Drained Weight

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

The contents shall be declared as net content when no fluid is added to the pack and as drained weight when fluid is added.

7.5 Name and Address

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

7.6 Date Marking and Identification

Each container shall be embossed or otherwise permanently marked in code or clear to identify the producing firm, the date of production and the contents of the container.

8. METHODS OF ANALYSIS AND SAMPLING

The methods of analysis and sampling described hereunder are international referee methods and subject to endorsement by the Codex Committee on Methods of Analysis and Sampling.

8.1 Sampling for Destructive Examination

Sampling of lots for examination of product quality shall be in accordance with the Sampling Plans for Prepackaged Foods (ALINORM 69/27) (AQL = 6.5, probability 95%).

8.2 Determination of Drained Weight

Drained weight shall be determined by averaging the results from all containers of a sample representing a lot, provided that there shall be no unreasonable shortage in any individual container.

Procedure

- (1) Keep the unopened containers at about 20°C (68°F) for a minimum of 12 hours immediately prior to examination.
- (2) Weigh a dry, clean sieve with woven wire cloth with nominal size of the square aperture 2.8 mm (ISO Recommendation R565), or alternatively 2.38 mm (US No. 8 Standard Screen).
- (3) After opening, tilt the opened container so as to distribute the contents over the meshes of the sieve which has been previously weighed. If contents are wrapped, e.g. in parchment paper, remove the wrapping. Incline the sieve at an angle of about 15 degrees and allow the crab meat to drain for two minutes.
- (4) Weigh the sieve containing the drained products. Subtract the mass of the sieve. The resultant figure shall be considered to be the drained weight of the crab meat.

8.3 Determination of Water Capacity of Container

Procedure

- (1) Select a container which is undamaged in all respects.
- (2) Wash, dry, and weigh the empty container after cutting out the lid without removing or altering the height of the double seam.
- (3) Fill the container with distilled water at 20°C to 5 mm vertical distance below the top level of the container, and weigh the container thus filled.
- (4) Subtract the weight found in (2) from the weight found in (3). The difference shall be considered to be the weight of water required to fill the container.

OR, AS AN ALTERNATIVE TEXT, THE FOLLOWING SECTION ON DETERMINATION OF CAPACITY FROM ISO RECOMMENDATION No. R90 ON HERMETICALLY SEALED METAL FOOD CONTAINERS (ISO/R 90-1959). (See para. 82 of ALINORM 72/18)

It is recommended that the following method be used internationally for determining the capacities of hermetically sealed metal containers:

- (1) The bottom is applied to the container by the usual seaming methods.
- (2) Two holes, 3 to 4 mm (approximately 1/8 inch) in diameter and about 5 mm (approximately 1/4 inch) apart, are drilled in the lid of the can as close as possible to the countersink, from the inside surface outwards. This component is then applied to the can by the usual seaming methods.

- (3) The empty container is weighed in grammes to the nearest 1 gramme.
- (4) It is then filled with water at a temperature of 20°C from a narrow water jet through one of the holes, with the container inclined at an angle to the vertical so that the holes are as high as possible. When water first runs out of the second hole, complete filling is ensured by closing the holes with the fingers, gently shaking the can and completing the filling. Any surplus water on the outside of the can is removed with blotting paper.
- (5) The filled container is then weighed in grammes to the nearest 1 gramme.
- (6) The difference between the weighings plus 0.28% represents the capacity of the container in millilitres.

Note. The density correction of 0.28 ml for each 100ml of capacity is based essentially on the temperature of the water which is weighed in the can, but also allows for the buoyance of the can and of the weights in air. It has been assumed that the specific gravity of the water-filled can is unity and that brass weights are used, but some departure from these conditions may be allowed without serious loss of accuracy.

#### 8.4 Determination of Net Content

Net content shall be determined by averaging the results from all containers of a sample representing a lot, provided that there shall be no unreasonable shortage in any individual container.

##### Procedure

- (1) Weigh the unopened container.
- (2) Open and pour out the contents and allow the container to drain for two minutes.
- (3) Weigh the empty container, including the top and wrapping material if present.
- (4) Subtract the mass of the empty container and wrapping material, if present, from the mass of the unopened container. The resultant figure shall be considered to be the net content.

#### 8.5 Examination of Product Quality

After examination for net content or drained weight, the sample taken for destructive examination shall be examined organoleptically by persons trained in such examination.

#### 8.6 Classification of "Defectives"

A container which fails to meet any of the applicable requirements for appearance, odour and flavour, texture, shell residue, and struvite crystal as set out in sub-sections 3.4 (a), (b), (c), (d), (e) and (f) shall be considered a "defective".

#### 8.7 Lot Acceptance

A lot will be considered as meeting the requirements 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 Sampling Plans for Prepackaged Foods (1969) and when the average net contents or average drained weight of all containers examined is not less than the minimum specified in sub-sections 6.1 and 6.2, and when no container has objectionable flavours and odours indicative of decomposition or contamination and the presence of foreign materials.

PROPOSED DRAFT STANDARD FOR QUICK FROZEN SHRIMPS OR PRAWNS

(Returned to Step 3 to obtain a further round of Government comments)

1. SCOPE

This standard applies to quick frozen raw shrimps or prawns and those which have been steamed, parboiled or fully boiled during processing and offered for direct consumption without further processing. It does not apply to speciality products where shrimps or prawns only constitute a portion of the edible contents.

2. DESCRIPTION

2.1 Product Definition

2.1.1 Quick frozen shrimps or prawns are obtained from species of the families Peneidae, Pandalidae, Crangonidae and Palaemonidae.

2.1.2 Shrimps or prawns of comparable size and colour may be mixed. Shrimps or prawns of obvious visual differences or sizes shall not be mixed.

2.2 Process Definition

2.2.1 The product 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 unless and until the product temperature has reached  $-18^{\circ}\text{C}$  (OOF) at the thermal centre after thermal stabilization. The product shall be maintained at a low temperature such as will maintain the quality during transportation, storage and distribution up to and including the time of final sale.

The recognized practice of repacking quick frozen products under controlled conditions followed by the re-application of the quick freezing process as defined is permitted.

2.2.2 Shrimps or prawns shall be either individually quick frozen or quick frozen in mass. If individually quick frozen the shrimps or prawns shall be maintained individually separate until the time of final sale.

2.3 Presentation

Shrimps or prawns shall be presented as:

2.3.1 Whole - head and shell on.

2.3.2 Headless - head removed, shell on.

2.3.3 Fantail or cutlet - head removed, and shell removed down to the last segment, leaving the shell on the last segment as well as on the telson (tail).

(i) Round - prepared as described in 2.3.3.

(ii) Round and deveined - in addition to the preparation as described in 2.3.3, the back of the peeled segments of the shrimps or prawns has been cut open and the vein removed.

(iii) Split - in addition to the preparation as described in 2.3.3 the peeled segments of the shrimps or prawns have been split longitudinally and laid open and the vein has been removed.

(iv) Western style - in addition to the preparation as described in 2.3.3 the peeled segments of the shrimps or prawns have been split longitudinally completely through four segments of the shrimps or prawns starting with the anterior or segment number one, and the vein has been removed.



2.3.4 Peeled - head removed and all shell removed.

- (i) Deveined - in addition to peeling as described in 2.3.4, the back has been cut open and the vein removed at least up to the last segment next to the telson (tail).
- (ii) Split (butterfly) - in addition to peeling as described in 2.3.4, the shrimps or prawns have been split longitudinally at least up to the last segment next to the telson (tail) and laid open, and the vein has been removed.
- (iii) Western style - in addition to peeling as described in 2.3.4, the shrimps or prawns have been split longitudinally completely through four segments of the shrimps or prawns starting with the anterior or segment number one, and the vein has been removed.

2.3.5 Pieces - pieces of the product consisting of less than four segments of shrimps or prawns of such size that they would, if unbroken, in the raw headless state number more than 100/kg (45/lbs), or consisting of less than five segments of larger shrimps or prawns. Such pieces may be present in the products defined in sub-sections 2.3.1, 2.3.2, 2.3.3 and 2.3.4, subject to the tolerances provided for in 3.3.6. When pieces are packed and sold as such, they shall be designated in accordance with Section 6.1.2.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Raw Material

Quick frozen shrimps or prawns shall be prepared from clean and sound shrimps or prawns of the designated species and be of such a quality that they are suitable for human consumption.

3.2 Optional Ingredients

The glaze water or the medium used for freezing may contain:

- Salt
- Lemon juice
- Sugars (sucrose, invert sugar, dextrose, fructose, glucose syrup, dried glucose syrup)

3.3 Final Product

3.3.1 Appearance

- Clean, generally uniform in size [within a count category], and prepared with care;
- Colour characteristic of the species and habitat or areas from which harvested;
- practically free from dehydration, and blackening or other abnormal colouration.

3.3.2 Odour and Flavour

After thawing and where applicable cooking, shrimps or prawns shall have a good characteristic odour and flavour and shall be free of objectionable odours or flavours of any kind. A natural odour or flavour reminiscent of iodoform is not a defect unless excessive.

3.3.3 Texture

Shrimps and prawns shall be relatively firm and not mushy. They will be judged for texture only after thawing in accordance with the procedure as set forth in this standard in sub-section 8.1.1.

3.3.4 Glazing

Shrimps or prawns may be glazed either individually or in bulk. When glazed the coating of ice shall totally cover the shrimps or prawns so as to provide

protection from dehydration. The water used for glazing shall be of potable quality. Standards for potability shall be not less than those contained in the "International Standards for Drinking Water", World Health Organization, 1963. Any other medium used for glazing shall be microbiologically acceptable.

### 3.3.5 Size Classification

Quick frozen shrimps or prawns in any style of presentation may be packed by count, i.e., the average number of shrimps or prawns expressed either in the metric system ("Système International" units) or avoirdupois or both systems of measurement as required by the country in which the product is sold, and may be so declared as shown below:

Number of raw headless shrimps or prawns per kilogramme	Number of raw headless shrimps or prawns per pound
Under 22	Under 10
22 to 33 inclusive	10 to 15 inclusive
More than 33 but not more than 44	More than 15 but not more than 20
More than 44 but not more than 55	More than 20 but not more than 25
More than 55 but not more than 66	More than 25 but not more than 30
More than 66 but not more than 77	More than 30 but not more than 35
More than 77 but not more than 88	More than 35 but not more than 40
More than 88 but not more than 110	More than 40 but not more than 50
More than 110 but not more than 132	More than 50 but not more than 60
More than 132 but not more than 154	More than 60 but not more than 70
More than 154 but not more than 176	More than 70 but not more than 80
More than 176 but not more than 198	More than 80 but not more than 90
More than 198 but not more than 220	More than 90 but not more than 100
More than 220 but not more than 440	More than 100 but not more than 200
More than 440 but not more than 660	More than 200 but not more than 300

The count designation if used of quick frozen shrimps or prawns shall apply to the unglazed shrimps or prawns in the style of presentation designated on the label.

OR AS ALTERNATIVE TEXT (see para. 50 of ALINORM 72/18)

Quick frozen shrimps or prawns may be packed by size. The size classification shall relate to the unglazed shrimps or prawns contained in the final product, and may be expressed as a range indicating the average number of shrimps or prawns per unit of weight ("Système International" or avoirdupois). The difference between the maximum and minimum figures of the range shall not be greater than 20% of the average number.

### 3.3.6 Defects and Tolerances

The quick frozen shrimps or prawns in the various styles of presentation shall comply with the definition and essential quality factors as set forth in this standard, subject to tolerance allowances as set out in Annex B.

## 4. FOOD ADDITIVES

The following additives in quick frozen shrimps or prawns are subject to endorsement by the Codex Committee on Food Additives:

	<u>Maximum level of use</u>
Citric acid	according to GMP
Ascorbic acid	according to GMP

	<u>Maximum level of use</u>
Amaranth C.I.16185 )	30 mg/kg of the final product, singly or in combination
Canthaxanthine C.I.75135 )	
Erythrosine C.I.45430 )	
Ponceau 4R C.I.16255 )	
Diphosphate, tetrasodium or tetrapotassium (Na or K pyrophosphate) )	5 g/kg of the final product expressed as P <sub>2</sub> O <sub>5</sub> ; singly or in combination
Triphosphate, pentasodium or pentapotassium (Na or K tripolyphosphates) )	
Sodium bisulphite )	30 mg/kg of the final product expressed as SO <sub>2</sub> ; singly or in combination
Sodium sulphite )	
Sodium hyposulphite )	
Sodium or potassium metabisulphite )	

5. HYGIENE

It is recommended that the products covered by the provisions of this standard be prepared in accordance with the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969).  
(To be elaborated further to accommodate the heat treated products; see para.53, ALINORM 72/18)

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 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 product as declared on the label shall be "shrimp" or "shrimps" or "prawns" provided that such labelling is customarily used in the country where the products are to be sold and provided the product is identified to the consumer so that he will not be misled.

6.1.2 In addition, there shall appear on the label in conjunction with the name of the product the style of presentation as indicated below:

<u>Style of presentation</u>	<u>Labelling designation</u>
Whole	Whole Shrimp, Shrimps or Prawns
Headless	Headless Shrimp, Shrimps or Prawns
Fantail or Cutlet	Fantail or Cutlet Shrimp, Shrimps or Prawns. In addition, one of the words "Deveined", "Butterfly" or "Split" may be used as appropriate
Peeled	Peeled Shrimp, Shrimps or Prawns. In addition, one of the words "Deveined", "Butterfly" or "Split" may be used as appropriate
Pieces	Pieces of Shrimp, Shrimps or Prawns. In addition, one of the words "Deveined" or "Split" may be used as appropriate
Peeled Pieces	Peeled Pieces of Shrimp, Shrimps or Prawns. In addition, the word "Deveined" may be used if appropriate

6.1.3 In the case of cooked products, an indication of the degree of cooking shall appear on the label.

- 6.1.4 (i) In addition there shall appear on the label the term "quick frozen" or "frozen"\* whichever is customarily used in the country of sale, to describe a product subjected to the freezing process as defined in sub-section 2.2.1
- (ii) Shrimps or prawns in any style of presentation may be individually quick frozen, and in such case the labelling shall be "individually quick frozen" or "individually frozen".

6.1.5 In addition to the specified labelling designations above, the usual or common trade names of the variety may be added so long as it is not misleading to the consumer in the country in which the product will be distributed.

## 6.2 Size Classification

6.2.1 If quick frozen shrimps or prawns are labelled as to count, the classification must comply with the provisions of sub-section 3.3.5.

6.2.2 Quick frozen shrimps or prawns in any style of presentation except as provided in sub-section 2.3.5, shall be free from pieces subject to the tolerances provided for in sub-section 3.3.6.

## 6.3 List of Ingredients

When the shrimps or prawns are glazed no specific label declaration shall be required unless the glazing water contains additives, in which case a complete list of ingredients 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.

## 6.4 Net Contents

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

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

## 6.5 Name and Address

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

## 6.6 Country of Origin

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

6.6.2 When the 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.

## 6.7 Date Marking and Identification

There may be an indication in code or in clear of the date of production, that is, the date the final product was packaged for final sale.

## 7. METHODS OF ANALYSIS AND SAMPLING

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

\* "Frozen": This term is used as an alternative to "quick frozen" in some English speaking countries.

7.1 Sampling

Sampling shall be in accordance with the Sampling Plans for Prepackaged Foods (1969).

7.2 Determination of Net Contents of Products Covered by Glaze

A method for the determination of net contents of products covered by glaze is set out in sub-section 8.3 of this Standard.

7.3 Examination of Physical Defects

The sample shall be examined for defects according to Annex B.

7.4 Organoleptic Examination

Organoleptic assessment shall be made by qualified persons and shall take place after the sample has been cooked by a method set out in sub-section 8.1.2.

7.5 Classification of Defectives

A container which fails to meet one or more of the following requirements shall be considered a "defective".

1. The quality requirements for the final product:

- (a) appearance (sub-section 3.3.1)
- (b) odour and flavour (sub-section 3.3.2)
- (c) texture (sub-section 3.3.3)

2. The tolerance for physical defects per sample unit of 500 g as shown in Annex B.

7.6 Lot Acceptance

A lot will be considered as meeting the requirements 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 Sampling Plans for Prepackaged Foods (1969) and when the average net contents of all containers examined is not less than the specified minimum, and when the size of the shrimps or prawns complies with the declared count.

8. METHODS OF ANALYSIS, SAMPLING AND EXAMINATION

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

8.1 Thawing and Cooking Procedures (Ref. CAC/RM 40-1971) (To be used prior to examination, as appropriate)

8.1.1 Thawing Procedure

The sample is thawed by enclosing it in a film type bag and immersing in an agitated water bath held at approximately 20°C (68°F). The complete thawing of the product is determined by gently squeezing the bag occasionally so as not to damage the texture of the shrimps or prawns, until no hard core or ice crystals are felt.

8.1.2 Cooking Procedures

8.1.2.1 Steaming - Steam the sample in a closed dish of 18 cm (7 inches) diameter over boiling water for about 15-20 minutes if frozen, or for about 7-10 minutes after thawing the product. The dish should be covered and should be kept in a water bath at 60°C (140°F) during testing.

8.1.2.2 Boiling in Bag - Place the thawed sample 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 70°C (160°F) which requires about 20 minutes. Remove the boiled product from the pouch and drain.

8.3 Determination of Net Contents of Products Covered by Glaze

Procedure

- (1) Open the package with quick frozen shrimps or prawns immediately after removal from low temperature storage and place the contents in a container into which fresh water at room temperature is introduced from the bottom at a flow of approximately 25 litres per minute.
- (2) Weigh a dry clean sieve with woven wire cloth with nominal size of the square aperture 2.8 mm (ISO Recommendation R565) or alternatively 2.38 mm (US no.8 Standard Screen).
  - (i) if the quantity of the total contents of the package is 500 g (1.1 lbs) or less use a sieve with a diameter of 20 cm (8 inches).
  - (ii) if the quantity of the total contents of the package is more than 500 g (1.1 lbs) use a sieve with a diameter of 30 cm (12 inches).
- (3) After all glaze that can be seen or felt has been removed and the shrimps or prawns separate easily, empty the contents of the container on the previously weighed sieve. Incline the sieve at an angle of about 20° and drain for two minutes.
- (4) Weigh the sieve containing the drained product. Subtract the mass of the sieve; the resultant figure shall be considered to be the net content of the package.

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ANNEX A

The traditional practice followed in several countries of including "prawn", with some qualifying designation, in the common name of species which are not true prawns, such as "Dublin Bay Prawn" for Nephrops norvegicus, is recognised and nothing in the standard shall prevent this practice continuing provided due precautions are taken in the labelling of the product to ensure that the consumer in those countries will not be misled.

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ANNEX B

DEFECTS IN QUICK FROZEN SHRIMPS OR PRAWNS

Definition of defects

- (a) Dehydration - the shrimps or prawns shell or meat contains whitish areas which seriously affect its appearance.
- (b) Black spot - the shrimps or prawns shell or meat contains darkened areas which seriously affect its appearance.
- (c) Cut or torn, damaged, piece  
Cut or torn - a shrimp or prawn having a break in the meat greater than 3/4ths of the thickness of the shrimp or prawn at the location of the cut or tear.  
Damaged - a shrimp or prawn which is crushed or mutilated so as to seriously affect its appearance.  
Piece - a portion of a shrimp or prawn that contains less than five segments for counts less than 100 and less than four segments for counts over 100.
- (d) Improperly peeled shrimps or prawns are those which have shell or pieces of shell on the meat in excess of that warranted by the style or presentation.
- (e) Heads or parts of heads and unacceptable shrimp. Heads or parts of heads as well as unacceptable shrimp having a soft shell.
- (f) Legs, loose shells, and antennae.  
Legs - walking legs either loose or attached to the shrimps or prawns.  
Loose shell - any piece of shell which is completely detached from the shrimps or prawns.

- (g) Incompletely deveined means any black or dark vein that has not been removed if warranted by the style of presentation.
- (h) Extraneous material refers to any material in a container which is not shrimp material and is not harmful.

Tolerances

1. Tolerances for defects

Based on a sample unit of approximately 500 g, the product shall have not more than any combination of more than four of the following defects:

- |   |       |             |
|---|-------|-------------|
| (a) Dehydration/desiccation<br>(thawed shrimp)                                    |       | 5% area     |
| (b) Black spot  | meat  | 8% count    |
|   | shell | 12% count   |
| (c) Cut, torn, damaged or pieces<br>(does not apply to 2.3.5)                     |       | 9% weight   |
| (d) Improperly peeled in relation<br>to style or presentation                     |       | 5% weight   |
| (e) Heads, parts of heads and<br>unacceptable shrimp<br>(does not apply to 2.3.1) |       | 3% weight   |
| (f) Legs, loose shell and antennae  |       | 5 by number |
| (g) Incompletely deveined<br>(when specified)                                     |       | 5% by count |
| (h) Extraneous material<br>(not harmful)  |       | 2 by number |

2. Tolerance for Uniformity

Uniformity of size is determined by computing the actual count per kilogramme or pound of the shrimps or prawns in the sample unit, and then allowing a tolerance of 10% (by number) to fall into either the next larger or smaller bracket. The results from all containers of a sample representing a lot shall be averaged.