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ALINORM 74/26

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION

Tenth Session, Geneva

REPORT OF THE SEVENTH SESSION OF THE CODEX COMMITTEE ON FOODS FOR SPECIAL DIETARY USES

Cologne, 10 - 14 October 1972

INTRODUCTION

1. The Codex Committee on Foods for Special Dietary Uses held its seventh session by courtesy of the Government of the Federal Republic of Germany, in Cologne. The session was opened by the Chairman of the Committee, Mr. H.P. Mollenhauer, Ministerialrat, Federal Ministry of Youth, Family and Health, who welcomed the delegations on behalf of the Federal Minister for Youth, Family and Health. In his opening remarks, the Chairman drew the Committee's attention to the importance and urgency of their work in respect of the large number of infants and children in the world in need of adequate nutrition. In view of the worldwide application of these standards it might not be possible and also not necessary to draw up standards with too much detail, if it meant holding up their progress unduly. The session was attended by government delegations from the following 16 countries: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Fed. Rep. of Germany, Italy, the Netherlands, Poland, Sweden, Switzerland, United Kingdom, United States of America and Venezuela. The following 9 International Organizations were represented by observers: Association of Official Analytical Chemists (AOAC), European Economic Community (EEC), International Association for Cereal Chemistry (IACC), International Federation of Glucose Industries (IFG), Union des Industries de la CEE (UNICE), International Secretariat for the Industries of Dietetic Food Products (ISDI), Association des Industries des Aliments Diététiques de la CEE (IDACE), International Organization of Consumers Unions (IOCU), Institut Européen des Industries de la Pectine (IEIP). A list of participants, including representatives of FAO and WHO, is attached as Appendix I to this Report.

ADOPTION OF THE PROVISIONAL AGENDA

2. The Committee adopted the provisional Agenda with some rearrangements in the order of items to be discussed.

APPOINTMENT OF RAPPORTEURS

3. Mr. L.M. Beacham (U.S.A.) and Dr. H. Prost (France) agreed to act as rapporteurs and were so appointed.

MATTERS ARISING FROM THE 7th SESSION OF THE CODEX COMMITTEE ON METHODS OF ANALYSIS AND SAMPLING

4. The Secretariat informed the Committee that the 7th session of the Codex Committee on Methods of Analysis and Sampling (Budapest, 12-18 September 1972) had referred back to the Codex Committee on Foods for Special Dietary Uses, some specific questions on methods of analysis and other matters (ALINORM 72/23, paras 28, 31, 32, 52, 53, 57 and 69).

5. The Chairman requested a small group of delegates from the delegations of France, the Netherlands, the United Kingdom and the United States to consider and report on the questions raised in the report of the 7th session of the Codex Committee on Methods of Analysis and Sampling. The report of the group which was adopted by the Committee with slight amendments is as follows:

A. Methods of Analysis in Standards for Foods for Infants and Children

Crude Fat (Paragraph 28)

6. Definition: "Fat" includes all mono-, di-, and triglycerides, together with other extractable substances such as phospholipids.

7. Methods of analysis

(a) for canned Baby Foods, Infant Foods based on cereals, and Meat-based Infant Formulas, the only suitable method is one involving acid or alkaline hydrolysis followed by ether extraction. Foods of high moisture content, e.g. "strained" and "junior baby foods" need a pre-drying, such as, drying for 1 1/2 hours at 105°C, after mixing with any appropriate dry matter, e.g. sand.

(b) All types of Infant Formula (other than meat-based): the method recommended is the AOAC modified Rose-Gottlieb.

Conversion factors for available calories (available kilojoules) (paragraphs 30-31)

8. Except for specific studies it was recommended that the conversion factors be 4 calories/g, 4 calories/g and 9 calories/g for protein, carbohydrate and fat respectively. It is recommended that where carbohydrate can be determined as, or is known to be available as monosaccharides, the calorie conversion factor shall be 3.75. However, where internationally agreed calorie conversion factors exist, then their adoption is recommended 1/. It is recommended that a manufacturer shall be permitted to use a specific calorie conversion factor, if he knows precisely the formulation of the food and the nutrient content, and when such specific factors are physiologically more meaningful than other factors in official use.

Protein and conversion factors for Nitrogen (paragraphs 30-31)

9. The Kjeldahl method is recommended to determine the nitrogen content of the food. The conversion factor to be used is such that (Nitrogen x factor) = Protein. The following factors are recommended 2/:

Wheat cereal protein:	5.7
Soya protein:	6.25
Milk protein:	6.38

Problems will arise where a food is a mixture of wheat cereal, soya and milk-derived protein. It is therefore recommended that where a food is comprised of more than e.g. 90% by weight of either wheat cereal, soya or milk derived ingredients, then the protein factors shall be respectively 5.7, 6.25 and 6.38. It is further recommended that where the food is comprised of approximately e.g. 80% by weight of either wheat cereal, soya, or milk-derived ingredients, the balance being in each case wheat cereal, soya or milk, or mixtures thereof, then the protein factor employed shall in all cases be 6.25. It is also recommended that where a manufacturer knows precisely the amount of each wheat cereal, soya or milk-derived ingredient in his formulation, then the protein factor employed shall be derived proportionally using the wheat cereal, soya and milk factors of 5.7, 6.25 and 6.38 respectively and where appropriate, using other conversion factors from the list attached as Appendix II B.

Available carbohydrates (paragraph 32)

10. It is recommended that available carbohydrates be so calculated:

(Carbohydrate by difference) - (Crude Fibre) = "Available carbohydrate". This is applicable where it is known that there is little or no "unavailable carbohydrate" other than crude fibre. For other cases, it is desirable that methods should be sought for the direct determination of available carbohydrate, and it is recommended that enzymatic methods, or enzymatic methods combined with chromatography, should be given priority. Where simple sugars alone are known to be present, standard methods can be used.

1/ The FAO/WHO list of conversion to kilocalories and kilojoules is attached as Appendix II A.

2/ Reference to catalysts and a list of other conversion factors for nitrogen appear as Appendix II B to this report.

Linoleic acid (paragraph 52)

11. The compound intended to be covered by the standard for Infant Formula is: cis, cis, 9 : 12 octadecadienoic acid. This isomer is an essential nutrient and is the one usually predominantly present and supplying essential fatty acid.

12. At the present time there are well accepted methods available for this isomer, but it is recommended also that the outcome be awaited of the deliberations of the Codex Committee on Fats and Oils concerning a GLC method in process of being developed.

Vitamin K (paragraph 53)

13. The recognised method for the determination of vitamin K is the chick-assay method of Schønheyder F. (CXXIX - The quantitative determination of vitamin K. I. Biochemical Journal 30:890-897, 1936) and Dam H. and F. Schønheyder (CXXX - The occurrence and chemical nature of vitamin K. Biochemical Journal 30:897-901, 1936). However, there are GLC and TLC methods being developed. It is predicted that there will supplant the above assay method in the immediate future. These new methods will measure vitamin K_1, which is the main natural source of vitamin K and which is the only form of vitamin K permitted to be added to Infant Formula (ALINORM 72/26, para 38).

Identification of the ingredients (paragraph 57)

14. It was considered that there is no need for methods for optional ingredients unless these are known and specified.

B. Methods for Analysis for Salt Substitutes (Qualitative Tests for the Identification of the Anions in Salt Substitutes (paragraph 69))

15. The Committee considered paragraph 69 of the Report of the Codex Committee on Methods of Analysis and Sampling (ALINORM 72/23) and recognized that there was no need for reference methods to identify the anions present in salt substitutes.

CONSIDERATION OF BACTERIOLOGICAL STANDARDS FOR FOODS FOR BABIES AND INFANTS

16. The Codex Committee on Foods for Special Dietary Uses, at its fifth session, had requested the delegation of the Federal Republic of Germany to amend their paper "Bacteriological Requirements and Microbiological Methods of Analysis for Baby and Infant Foods" (CX/FSDU 70/7), in the light of government comments, in collaboration with WHO (ALINORM 71/26, para 54). The Committee considered the revised paper (ALINORM 72/26, Appendix VIII) in the light of further government comments (CX/FSDU 72/5).

Title

17. The Committee reviewed the title of the document and considered that not only bacteria but also yeasts and moulds were to be covered by the Standard. It was further considered that the products to be covered were not intended for babies but were particularly meant for infants and young children (up to the age of 3 years). The title was amended accordingly to "Microbiological Standards for Foods for Infants and Children".

Headings of columns

18. The Committee agreed to rearrange the sequence of the columns to "D, A, B, C" 1/ as it considered this to be more logical. To avoid any misunderstanding it was also agreed to replace in "old" A the words "ready to use" by "dried" so as to indicate clearly that for this type of product the addition of a liquid before use was a prerequisite.

19. From the discussion it became clear that, as the term "cooking" had not been defined, an indication of what the Committee understood by the term seemed required. It was agreed to insert the following footnote to "old" B: "Cooking means heating the product to at least 100°C for a period of at least 3 minutes".

20. The group of products covered by "old" C was intended to include not only products which could be used in the form presented but also products which had to be diluted before they could be served. The term "Ready-to-use" could be misinterpreted and was therefore deleted.

21. It was proposed to merge "old" D with A as it was thought that virtually the same products were covered. The Committee agreed, however, to retain "old" D and to specify that it was intended for all products not covered by "old" A, B and C (see also para 26).

1/ Which became "a, b, c, d" in the new version (Appendix III to this Report).

Total bacterial count

22. It was pointed out that the term "total bacterial count" was not quite correct as only the aerobic bacteria could grow on the medium used and further that yeasts and moulds would also develop. The Committee agreed to amend the wording to: "Aerobic plate count". It was pointed out and the Committee agreed that the limits set for mesophilic aerobic plate cound did not apply to products which had been acidified through the action of lactic-acid forming bacteria.

23. The Committee agreed to change the requirement for the incubation temperature and time for products preserved by thermal treatment from 7 days incubation at 37°C to 14 days at 30°C. The provision that no physical, chemical or organoleptic changes would be allowed was considered to refer only to abnormal changes as the incubation could be expected to produce some normal changes. The text was revised accordingly.

24. The delegation of the United States objected to the revised testing procedures for incubating products in category "old" C. When applying this procedure to low-acid canned foods it was customary under U.S.A.-industry and regulatory procedures to incubate the cans at 37°C for 10 days; acid products with pH less than 4.6 were not incubated. Furthermore the delegation of the United States was of the opinion that, following incubation, plate counts were not necessary. The absence of abnormal physical changes in the product as well as of significant changes in pH, or of swollen cans, was indicative that the product had been properly processed and was completely safe.

25. The Committee considered a proposal to specify that canned products intended for tropical markets should also be subjected to incubation at 55°C for a period of 14 days. It was agreed to include this provision.

26. The representative of WHO stated that, in his opinion, there should not be different microbiological standards for the Groups "old" A and "old" D as the products which fell into these Groups were both ready for use. He further stated that the addition of liquid prior to consumption increased the risk of contamination, particularly in warmer climates, and that therefore the maximum value proposed for total bacterial count for "old" A (50.000/g) should not be five times higher than the value proposed (10.000/g) for the products of Group "old" D. The representative of WHO suggested a single Group for products under "old" A and D with a maximum total bacterial count of 10.000/g (see also para 21).

27. The French delegation proposed to replace the formulation "neg. in x grammes" by "less than 1 in x g" in all cases. The Committee agreed to reword the provisions to read "no more than x in y grammes".

Coliform bacteria

28. There was some discussion regarding the need for this particular requirement for coliforms as Escherichia coli were listed specifically. The Committee agreed, however, to retain the requirements.

Yeasts and hyphomycetes

29. The Committee agreed to rename the provision: "Yeasts and moulds".

30. Some delegations questioned the need to prescribe a limit for the number of yeasts and moulds as they were of the opinion that it would be apparent from the aerobic plate count whether these organisms were present in excessive numbers. The Committee decided to retain the provision but agreed to set the acceptable limit at 300/g for "old" A and D and 1000/g for "old" B.

Aerobic spore-forming organisms

31. The Committee agreed to delete this provision as it was not considered to provide much information in addition to the results of the aerobic plate counts.

Anaerobic spore-forming organisms (Clostridia)

32. Some delegations expressed the opinion that for the products concerned a specific requirement for these organisms was not necessary. The Committee decided, however, to retain the provision for the categories "old" A, B and D.

Salmonellae and Shigellae

33. The Committee agreed to delete the provision for the heat treated canned products ("old" C) as it could be assumed that the organisms would have been destroyed during the processing operation. The delegation of France expressed the opinion that all reference to Shigellae should be deleted.

Pathogenic staphylococci

34. The Committee agreed to rename the provision: "Coagulase-positive Staphylococci". The provision for these organisms in "old" C was deleted.

Status of the standard and code of hygienic practice

35. The Committee agreed to request the Codex Committee on Food Hygiene now to procede with the elaboration of a Code of Hygienic Practice for Foods for Infants and Children including end-products specifications, on the basis of the revised table of microbiological requirements as contained in Appendix III to this Report. The delegation of the United States stated that it would be willing to provide documentation on microbiological analytical methods. It was understood that the Secretariat would keep this Committee informed about the progress of the Codex Committee on Food Hygiene in this field.

FOOD ADDITIVES IN FOODS FOR INFANTS AND CHILDREN

36. Following the wish expressed by the Codex Committee on Foods for Special Dietary Uses at its sixth session (ALINORM 72/26, paras 12-13 and 125) a group of collaborating countries (Canada, the Federal Republic of Germany, Sweden, Switzerland, the United Kingdom and the United States) had met informally on 9 October 1972 to discuss a working paper on additives for technological purposes used in foods for infants and children.

37. The working paper (CX/FSDU 72/6) had been compiled by the Canadian delegation on the basis of replies sent by governments to a questionnaire developed by the U.S.A. and Canadian delegations. As agreed to by the Committee (ALINORM 72/26, Appendix VII) this questionnaire included a request for information on mineral salts added as nutrients to Infant Formula, as such substances are provided for in the standard.

38. Dr. T.K. Murray, of the Canadian delegation, who had chaired this informal meeting, reported to the Committee the discussions and recommendations of the group of collaborating countries. After discussion the Committee adopted the following conclusions:

39. In considering the list of food additives proposed for inclusion in the standards for foods for infants and children the Committee took note of the admonition of the Joint FAO/WHO Expert Committee on Food Additives that additives should in general not be used in foods intended for infants under the age of 12 weeks (15th Report, Annex 3, paragraph 2.2.1). The Expert Committee had acknowledged, however, that there might be exceptions on technological grounds and the Committee proceeded with their discussions on the basis that certain additives were essential during the manufacture of foods for infants and children.

40. The Committee took note also of the Expert Committee's recommendation that additives which would be consumed by infants of under 12 weeks should be evaluated in studies with animals at a comparable stage of development (15th Report, Annex 3, paragraph 4.2).

41. Following a proposal by the delegations of Poland and Belgium, the Committee expressed the view that this was a valid recommendation. However, the Committee considered that such tests had not yet been undertaken nor would be in the near future, and for these reasons saw no prospect in present circumstances of distinguishing in this respect between foods for infants under 12 weeks of age and those for older children. The delegation of the Netherlands expressed the view that in its country there was no need for any additives in this class of food. The delegation of Australia wished to be associated with this expression and further emphasized that, in its opinion, additives used in this class of foods should be toxicologically tested according to the procedure recommended by the FAO/WHO Expert Committee on Food Additives. The observer of IOCU drew attention to the increasing use, in some countries, of canned baby foods and cereal-based foods in the feeding of infants younger than 12 weeks of age.

42. In considering the various additives proposed, the Committee recognized that it was not responsible for toxicological evaluation; the food additive provisions of the standards would be subject to endorsement by the Codex Committee on Food Additives in accordance with toxicological evaluation by the Joint FAO/WHO Expert Committee on Food Additives. It was decided also that, where the need for additives of a given class was accepted, there was no evidence on which to distinguish on technological grounds, between alternative substances currently in use in different countries. Therefore, it was decided to include in the standard all such additives on the understanding that normally no more than two substances from the same class should be used in any one product. Individual countries need not adopt the whole list but could select from the Standards only those additives which met their particular needs.

43. The Committee considered the use of natural flavours and colours and concluded that while their addition could not be justified in infant formula, it was acceptable to replace

flavours lost during the processing of canned baby food and food based on cereals. It was decided by a majority that the replacement of colours was not, however, necessary.

44. The delegation of the Netherlands drew attention to the absence of any proposal for baking powders in baked cereal products. It was agreed to invite government comments on this point.

45. After discussion of the proposed additives, reduced lists were adopted. The lists for Infant Formula and Canned Baby Foods are attached as Appendix V to this Report and the list for Processed Foods for Infants and Children Based on Cereals is incorporated in the Proposed Draft Standard (Appendix IV). Whenever possible, quantitative limits were proposed, based on the maximum amounts now used. In other cases levels should be limited in accordance with good manufacturing practice.

46. Consideration was given also to a proposed list of mineral salts suitable for meeting the nutritional requirements as provided for in the draft standard for infant formula. This list (incorporated in CX/FSDU 72/6) was amended only by the deletion of sodium, calcium and potassium tartrate, cobalt chloride and by the addition of ferric ammonium citrate. The revised list appears as Appendix VI.

47. It was decided that the list of mineral salts should not be part of the standards. It should be further elaborated as an approved list of mineral salts suitable for use where necessary in foods for infants and children, and reference be made to it in the respective provisions on minerals in the standards. A small group of countries would collaborate by correspondence in further developing the list before the next session of the Committee. The group would consist of the Federal Republic of Germany, Switzerland, the United Kingdom and the United States with Mr. Beacham (USA) acting as coordinator. The same group would develop also a list of vitamins suitable for addition to foods for infants and children, with Mr. Ruffy (Switzerland) as coordinator. Governments were invited to send any relevant information to the coordinators mentioned above. The lists would, in due time be forwarded to the Secretariat for distribution.

PROPOSED DRAFT STANDARD FOR PROCESSED FOODS FOR INFANTS AND CHILDREN BASED ON CEREALS (at Step 3)

48. The Committee had before it the above proposed Standard (ALINORM 72/26, Appendix VI) and a synopsis of government comments (CX/FSDU 72/7).

DESCRIPTION

49. The Committee decided not to restrict the liquids used in dilution of dry cereals (section 2.1) to water, milk or Infant Formula, and to change this phrase to read ..."water, milk or other suitable liquid...."

50. The Committee discussed whether in the Standard a provision should be made for biscuits based on milk or milk products as the main ingredient. The Committee decided that such a product would not be covered by the Scope Section of the Standard. The Committee further decided that those products based on cereals, but designated as "milk biscuits" should contain a minimum quantity of milk solids, and agreed to a new version of the last sentence of sub-section 2.4: "Milk biscuits consist primarily of cereals and contain milk solids".

51. In line with this discussion the Committee agreed to amend sub-section 4.1.2 (Essential Composition) to read: "Milk biscuits are prepared from one or more milled cereal products with the addition of not less than 25% m/m milk solids".

DEFINITIONS

52. Sub-sections 3.1 and 3.2 were amended editorially.

ESSENTIAL COMPOSITION AND QUALITY FACTORS

Essential Composition

53. The Committee agreed to introduce the word "pasta" in conjunction with "dry cereals, rusks and biscuits". Sub-section 4.1.1 was further modified so as to indicate that the degree of milling was broader than flours only and that all milled cereal products could be used. To the list of examples of cereals, "rye" was added. Sub-section 4.1.2 was redrafted according to the decision taken on milk biscuits (see paragraph 50).

Optional ingredients

54. The Committee discussed whether the addition of essential amino acids should be permitted. Some delegations were in favour of deleting all reference to this addition

as, in their view, there was a risk of imbalance in the whole diet of the infant or the child. Other delegations expressed the opinion that the addition of essential amino acids should be left to the national legislation of those countries in which amino acid enrichment of foods was used. The Committee, however, considered that "fortified" products were currently in international trade and mainly processed in those countries where no enrichment was needed. It further considered that certain quantities of thermolabile amino-acids such as lysine were denaturated during processing. It was decided to leave this provision as optional in section 4.2.1 of the Standard.

55. The Committee agreed to delete the clause relating to the addition of isolated amino acids. As regards the restriction of the use of L-forms of amino-acids only, the representative of WHO proposed to make an exception for methionine so as to permit the addition of the DL-form of this amino-acid. The Committee, however, was of the opinion that only the L-forms should be allowed, and decided not to make special reference to methionine.

56. The delegation of Denmark stated that, in its opinion, there existed a potential risk to health when a free amino acid was added at a level that produced an "imbalanced" protein. They therefore suggested that the limit for safe addition of an amino acid should be the difference between the amount of that amino-acid present in whole egg protein (expressed as the percent of the total protein) and the amount present in the original protein to which the amino-acid is being added.

57. It was proposed to increase the level of cocoa products used as optional ingredients and the Committee discussed the maximum level to be allowed for these products. Some delegations expressed the opinion that cocoa products should not be given to infants, while other delegations thought there was no harm to feed infants of 8 months of age or even younger with products containing small quantities of cocoa. The Committee decided to set the limits for the minimum age at 12 months and for the maximum level (5%) of cocoa in square brackets in the Standard and to request governments to comment on these figures.

58. The Committee considered that in foods for use by adults there were often provisions for food additives, contaminants etc. which should not be permitted in foods for infants and children. It decided therefore to delete the clause for "ingredients for which Codex Standards exist".

59. There was a discussion on whether the maximum quantity of salt in sub-section 4.2.2 should refer to the addition of NaCl, or to the total quantity of NaCl present in the final product. Most of the delegations were in favour of referring to the total quantity, considering that a provision for an upper limit of sodium was needed in products for infants and children. It was also mentioned that no assessment of an added quantity of salt was possible in the final product.

60. The delegations of Canada and the United States were in favour of retaining a figure of 0.25% added salt in infant foods. The delegation of the United States cited a review by the National Academy of Science of the United States, which indicated that the infant would not be adversely affected by allowing 0.25% added salt. The United States also pointed out that in some instances products with more than 0.25% total salt might result solely from the salt naturally present in the raw materials used.

61. Other delegations proposed to express the maximum sodium content as milli-equivalents. The Committee finally agreed to refer to a total quantity of salt (NaCl) not exceeding 0.25% m/m. The Committee further agreed to invite government comments on whether the 0.25% m/m level of total salt in the product should refer to the product as consumed. If the product required dilution with water before consumption no problem was foreseen but comments were particularly requested concerning the level of salt in these products which might be diluted with milk before consumption. The sentence was therefore placed in square brackets.

62. Regarding the provision for iodized salt, the Committee agreed that the addition of iodine should be left to national legislations.

Quality Factors

63. The Committee was of the opinion that sub-section 4.3.3 was unnecessary and agreed to its deletion in the Standard. The delegation of the Federal Republic of Germany made a reservation as, in its opinion, the Standard should provide for a minimum quantity of water-soluble carbohydrates in baked foods.

64. As regards sub-section 4.3.3 and 4.3.4 there was a general discussion on whether or not the Standard should provide for a minimum quality and quantity of the total protein present in the products. The representative of WHO stated that cereals were still the major source of protein in the world, and that this also applied to infants of developing countries at the age of weaning. He expressed the opinion that when foods for infants and children based on cereals were intended to be sold in such countries, they should contain an absolute minimum of 6 or 7% of protein, the net protein utilization (NPU) of which should be not below 60%. He also mentioned that the attention of the FAO/WHO Protein Advisory Group (PAG) had been drawn to this Standard and that the PAG would probably consider it at its next meeting in Geneva in December 1972.

65. Some delegations were of the opinion that foods for infants and children based on cereals could not be considered as a primary source of protein, but that in most cases they had to be diluted with milk and that if a minimum quantity and quality of protein had to be provided for, it should be on the basis of the Protein Efficiency Ratio (PER) rather than the NPU. It was further considered that the proposed provision would perhaps affect protein-rich foods not presently covered by the Standard and that such products should contain a level of protein of the order of 15%.

66. The Committee also considered the need for a provision regarding a minimum content of protein of animal origin in rusks, biscuits and pasta. After discussion, the Committee agreed, with a slight majority, to delete sub-section 4.3.4 of the Standard and to invite any comment from PAG.

67. The Committee agreed to delete sub-section 4.3.5 regarding the dextrin and maltodextrin content. The delegate of Italy expressed the opinion that this text should be retained.

Consistency and Particle Size

68. The Committee agreed to delete the second sentence of sub-section 4.4 referring to the consistency of the product and to amend the last sentence as already agreed to in sub-section 2.1 ("other suitable liquid" instead of "Infant Formula").

Specific prohibition

69. There was a discussion on whether any treatment by ionizing radiation (in sub-section 4.5) should be entirely prohibited with regard to the product itself and also with regard to its components, in particular with regard to cereals entering its composition. The delegation of the United States, supported by the delegation of Canada was of the opinion that irradiation, at low levels and intended to distroy insects in cereal and cereal products, should be allowed. The delegation of the United Kingdom pointed out that, in some countries, such treatment was prohibited. The delegation of the Federal Republic of Germany was of the opinion that cereals should not be irradiated. It was also mentioned by the delegation of the United States that UV irradiation would also fall under such a prohibition. The Committee agreed to put the whole provision in square brackets and to request governments for comments on this subject. The delegations of France and Switzerland were of the opinion that deletion of the phrase "and its components" would meet the wish of the Committee.

CONTAMINANTS

Pesticide Residues

70. It was pointed out to the Committee when considering sub-section 6.1 that standards for foods for infants and children were the only ones to provide for a reduction of pesticide residues to the maximum extent possible, while specific standards on pesticide residues were elaborated by the Codex Alimentarius Commission for maximum levels of pesticide residues in food in general.

71. The Committee agreed to request the Codex Committee on Pesticide Residues to consider this particular case and to examine the wording of this sub-section.

Other Contaminants (sub-section 6.2)

72. The Committee was informed that the Codex Committee on Food Additives had recommended a slightly different wording for this provision in the Standard for Infant Formula at Step 8, to read "The product shall be free, as far as practicable, from residues of hormones, antibiotics and other contaminants" (ALINORM 72/12, para 30). The Committee agreed to re-word the sentence in the Standard for Cereals to read: "The product shall be free from residues of hormones, antibiotics and practically free from other contaminants". Some delegates expressed the opinion that, for animal products, this provision might be not entirely realistic.

HYGIENE

73. The Committee was informed that the ninth session (1972) of the Codex Committee on Food Hygiene had modified sub-section 7.2 of the Draft Standard for Infant Formula (which is identical in all standards for foods for infants and children) to read "All ingredients used in the preparation of the product shall conform with the hygienic provisions of all applicable codes of practice" (ALINORM 72/13A, para 22). The Committee was also informed that the Secretariat had already received a comment on this new version, with a proposal to replace the word "shall", by "should", as the Codes of practice are not of a mandatory nature.

74. The Committee further considered that the new version might be difficult to interpret, as it was not explained whether the "hygienic provisions" related to handling, packaging and keeping under sanitary conditions and/or to end-product specifications. The Committee agreed to leave sub-section 7.2 unchanged in the Standard and to request the Codex Committee on Food Hygiene to reconsider this question.

LABELLING

Declaration of nutritive value (sub-section 9.3.1)

75. A number of delegations and the observer of IOCU proposed to declare the nutritive value of the product in terms of a specified serving rather than per 100 grammes. The Committee considered there was a great deal of variation in declaration of nutritive value according to countries where servings were not identical. The Committee agreed to remove the square brackets in sub-section 9.3.1 and to re-word the provision to read:

> "The number of available Calories (or available kilojoules), and the amount of protein, fat, available carbohydrates and crude fibre supplied by a specified quantity of the food shall be declared on the label".

76. As regards sub-section 9.3.2 some delegates were of the opinion that the sentence was superfluous as there was a similar provision in sub-section 4.2.3. The Committee agreed to place the sub-section in square brackets and to request government comments regarding the need for the provision.

Nutritional claims

77. The observer of IOCU drew the Committee's attention to the fact that there might be a need for a provision regarding nutritional claims in this Standard as well as in other Standards for foods for infants and children.

Lot identification, date of manufacture and date of expiry, information for utilization (sub-sections 9.7 and 9.8)

78. The delegation of Denmark suggested that the sections concerning "Lot Identification" and "Information for Utilization" should be re-drafted as follows:

> "9.7 Lot itendification
>
> Each container shall be embossed or otherwise permanently marked in a code which identifies the manufacturer and the lot.
>
> 9.8 Date marking and storage instructions
>
> The date of manufacture and the date of expiry shall be declared in clear. When the date of expiry is dependent on special storage conditions these should be given on the label.
>
> 9.9 Information for utilization
>
> Directions as to the preparation and use of the food, and the estimated last consumption date after the container has been opened shall appear on the label or on an accompanying leaflet. If the date is dependent on special storage conditions these should also be given".

79. The Committee decided for the time being not to follow the Danish proposal but to amend the second sentence of the provision as follows: "The date /of manufacture/ /and/or expiry/ shall appear on the label /in code/ or /in clear/", with the understanding that governments would be requested to give their views on this part of the provisions regarding labelling.

80. The representative of WHO proposed to add to sub-section 9.8 "Information for Utilization" the following sentence "For products which are not to be consumed as such, the type of liquid to be added shall be clearly indicated on the label". In particular in tropical countries water was often added to these products instead of

milk and this practice could lead to malnutrition in young children. This statement was supported by the observer of IOCU who mentioned that his organization had received several complaints on this subject from consumers unions of developing countries. The Committee was of the opinion that the provision was sufficient as it stood and agreed not to amend sub-section 9.8.

STATUS OF THE STANDARD

81. The Committee agreed to submit the proposed draft Standard for Processed Foods for Infants and Children based on Cereals to the Commission at Step 5 of the Procedure for the Elaboration of World-Wide Standards. The revised text of the Standard is attached as Appendix IV to this Report.

CONSIDERATION OF THE AUSTRALIAN PAPERS ON GENERAL PRINCIPLES, GUIDELINES, LABELLING AND CLAIMS

82. The Australian delegation introduced the papers prepared in response to the decisions taken at the eighth session of the Codex Alimentarius Commission and the sixth session of this Committee (ALINORM 71/31, para 128 and ALINORM 72/26 paras 4 and 111).

83. It was pointed out that the papers consisted of introductory backgrounds and two sections. One section entitled "Guidelines for the Elaboration of Codex Standards for Foods for Special Dietary Uses" (CX/FSDU 72/4) consisted of provisions which were mainly derived from accepted decisions taken by this Committee or by the Commission. The origin of the provisions were indicated by a code figure.

84. The other section entitled "General Principles for Foods for Special Dietary Uses" consisted mainly of provisions which either had not been discussed by this Committee, or on which no definite decision had been taken, or were in regulations offered by contributary countries. The paper on "Labelling and Claims" had been included as sections 8 and 9 in these General Principles, which also included sections referring to carbohydrate reduced foods, low-calorie foods, foods suitable for use in the diet of certain diabetics, "gluten-free" foods, low-sodium foods and foods for infants and children. These General Principles are therefore a compendium of opinions and regulations and no attempt at selection had been made, as it was considered this would have entailed too great an intrusion of opinion from the Australian delegation.

85. The Committee briefly discussed these documents although they had only been introduced at the meeting. Some delegations pointed out that the distinction, in sub-section 2.4 of the Guidelines (CX/FSDU 72/4) between types of foods as against types of people in need of certain dietary foods should be reviewed.

86. After discussing some further details of these papers, the Committee wished to put on record its appreciation of this valuable contribution by the Australian delegation. Its author Dr. R.H.C. Fleming was congratulated especially on the comprehensive approach which he had taken in compiling this exhaustive survey of the previous work of the Committee.

87. In conclusion, it was decided to condense the various aspects into three documents under the working titles:

(1) General Principles concerning Foods for Special Dietary Uses,
(2) General Standard for Labelling of Foods for Special Dietary Uses,
(3) Labelling and Claims concerning Foods for a Diet for People with diabetes or other disturbances of digestion or metabolism.

Each of these papers should be drafted in a brief form suitable for acceptance by governments.

88. The delegation of Australia accepted the Committee's request to prepare papers for the eighth session of the Committee for items (1) and (2), and the delegation of the United Kingdom agreed to prepare the paper for item (3).

PROPOSED DRAFT STANDARD FOR FOODS FOR USE IN A DIET FOR DIABETICS at Step 3 (Appendix VII to ALINORM 70/26)

89. Several delegations reiterated the views they had expressed in their written comments on the need for this Standard (CX/FSDU 70/10, plus Addenda 1 and 2): Certain delegations were of the opinion that a Standard was needed for such products, as they are used by diabetics during their whole life, while some others saw no need for a Standard. Still other delegations expressed the view that this Standard might be usefully combined with the Standard for foods with low carbohydrate content, as in a diet for diabetics, the carbohydrate content should be strictly controlled in order to allow more variety in their diet.

90. The general feeling of the Committee was that, even if such a Standard might not be needed, the important point was for these products to be given proper labelling. The Committee agreed that the labelling part of this Standard should be dealt with in the general paper to be prepared by the delegation of the United Kingdom on labelling and claims of foods for a diet for people with diabetes or other disturbances of digestion or metabolism (see paras 86-87) pending further decision to be taken at another session as regards the Standard itself, which was maintained at Step 3.

PROPOSED DRAFT STANDARD FOR FOODS WITH LOW CARBOHYDRATE CONTENT (CARBOHYDRATE REDUCED FOODS) at Step 3 (Appendix IX to ALINORM 70/26)

91. The delegation of the Federal Republic of Germany pointed out that more scientific information had become available about disturbances in carbohydrate metabolism and that a standard for foods with low carbohydrate content should take into account recent progress of research in disorders of lipid metabolism. The Committee agreed that the appropriate part of this Standard should be considered in the papers on labelling which were to be prepared for the next session and that the Standard itself should be maintained at Step 3.

PROPOSED DRAFT STANDARD FOR GLUTEN-FREE FOODS (ALINORM 70/26, Appendix VIII)

92. At previous sessions of the Committee this Standard had not been advanced because of difficulties in the determination of gluten. The only possibility to assess so-called "gluten-free" foods was the absence of reaction in persons sensitive to gluten. The Standard covered two main types of products, (i) those which naturally did not contain gluten, and (ii) cereals from which gluten had been removed. The Committee was aware of the practical difficulties and generally considered that the removal of gluten was made so far as it was practicable.

93. The Committee discussed whether the title was appropriate and several proposals were made to amend it. It was agreed that the title would refer to "gluten-free" foods, i.e. the term "gluten-free" placed in inverted commas so as to indicate that in the processing of cereals this protein was not completely removed.

94. In order to overcome the difficulty in determination of gluten the delegation of the United Kingdom proposed to adopt a figure for "total residual protein", which would be 0.8% on a dry basis in the cereal products derived from wheat, oats, rye and barley and determined by the Kjeldahl method. Other delegations pointed out, however, that proteins other than gluten might be present in "gluten-free" foods.

95. The Committee also considered that certain patients suffering from gluten-induced enteropathies might also be intolerant to other substances such as lactose or milk proteins. The Committee agreed, therefore, that a sentence should be included in the Standard to make the declaration of the true nature of the carbohydrate (or carbohydrates) and of the protein (or proteins) present in the food mandatory.

DISTRIBUTION

96. According to a decision taken at its sixth session (ALINORM 72/26, para 71) the Committee agreed to delete section 6 relating to free distribution of these products.

STATUS OF THE STANDARD

97. The Committee agreed that the Proposed Draft Standard for "Gluten-free" foods contained in Appendix VII of this Report should be submitted to the Commission at Step 5 of the Procedure for Elaboration of World-wide Standards.

SPECIFIC PROBLEMS IN RELATION TO FOODS FOR INFANTS AND CHILDREN

98. In connection with the Draft Standard for processed foods for Infants and Children based on cereals, the Committee discussed the following documents:

- Lead in Infant Foods (Note by the United Kingdom) (CX/FSDU 72/10)
- Human Requirements for Manganese (CX/FSDU 72/3)
- Vitamins, Mineral and Protein Contents in processed Cereal Foods for Infants and Children (CX/FSDU 72/8)

Lead in Infant Foods

99. The delegation of the United Kingdom introduced the paper on lead and explained the situation concerning the occurrence of lead in the diet of adults and infants and children in the United Kingdom. A comprehensive survey of the lead content in the diet as a whole revealed no excessive intake. However, the results showed that the lead content of canned baby foods in metal cans could be higher than the average in the total diet. It was found that lead emanating from solder in metal cans played a particular role. It was pointed out that manufactuers of canned baby foods should select materials used for packaging infant foods with particular care.

100. After some discussion of the paper, the Committee thanked the delegation of the United Kingdom for its valuable contribution.

Human Requirements for Manganese

101. In considering the above named paper prepared by the Nutrition Division of FAO it was pointed out that in addition to the information contained in the document further useful data could be found in the following publication: Manganese intake by healthy infants and school children and manganese requirements (Manganaufnahmen gesunder Kleinkinder und Schulkinder und Manganbedarf), by C. Schlage; Med.u.Ernähr. 13 (1972) 49-54.

Vitamins, Mineral and Protein Contents in Processed Cereal Foods for Infants and Children

102. The representative of WHO referred to his statement made earlier (see para 64).

OTHER BUSINESS

Matters arising from the Report of the Seventh Session of the Codex Committee on Food Labelling

103. The Committee reviewed the changes proposed by the Codex Committee on Food Labelling in respect of qualifying additions to the name of the product "Infant Formula"in the Draft Standard for Infant Formula (ALINORM 72/22, para 26).

104. The Committee was of the opinion that the suggested qualifications by designations of the essential nature of the product in addition to its name was not acceptable and would be confusing the consumer. In some cases it might even result in the use of the wrong Infant Formula product.

105. The Committee unanimously recommended that steps be taken to retain the original name of the product as described in the Standard and reproduced in ALINORM 72/26 Appendix III.

Nitrite in Spinach

106. The Committee had before it a contribution from the delegation of the United States concerning nitrite in spinach (CX/FSDU 72/11). This paper referred to incubation tests using samples of canned strained spinach and beets which were opened and incubated with nitrite-forming bacteria. The results indicated that there was no significant bacterial growth if the samples were kept under refrigeration at 4°C after an initial period of two hours at room temperature. The delegation of Denmark reported that investigations in its country had shown that in similar experiments no nitrite formation was found if the opened containers were stored under refrigeration at temperatures not above 5°C for 4 days. Some delegations pointed out that under normal household conditions it might not always be possible to maintain the above mentioned temperature of less than 4°- 5°C and this might particularly be the case if a refrigerator were opened more often than under the test conditions described.

107. The Secretariat informed the Committee that at a meeting recently held in Paris on trace elements, the following statement was made by R. Ferrando and reported in "Annales de la Nutrition et de l'Alimentation 1972, 26, p. B 288". In soil, molybdenum is a metal indispensable to nitrate-reduction. Without molybdenum no nitrogen metabolism can take place in plants. Therefore molybdenum appears to be one of the "fundamental keys" of protein synthesis in plants, mainly where nitrates are used as fertilizers (this statement is based on work published by Ikonomova e., in Pochvozn, Agrokhim., 1969, 4, p.29-35)

Dehydrated Baby Foods

108. The Committee took note of a paper CX/FSDU 72/9, which had been prepared by the United Kingdom delegation at the request of the Committee at its sixth session (ALINORM 72/26, para 81) indicating the extent of changes to the standard which would be necessary to include similar products sold in dry form. It was agreed to defer discussion until the standard returned from the Codex Commission and is further examined at Step 7.

FUTURE WORK

109. Among the items to be considered at the next meeting, subject to decisions taken by the ninth session of the Codex Alimentarius Commission, would be the following:

- (Proposed) Draft Standard for Canned Baby Foods
- (Proposed) Draft Standard for Processed Foods for Infants and Children based on Cereals 1/
- (Proposed) Draft Standard for "Gluten-free" Foods 1/
- General Principles and Guidelines for Labelling and Claims of Dietary Foods
- Mineral Salts for Use in Foods for Infants and Children

1/ To be considered by the 10th Session of the Codex Alimentarius Commission

- Vitamin supplementation of Foods for Infants and Children.

DATE AND PLACE OF THE NEXT SESSION

110. The Chairman proposed and the Committee agreed that the next session of the Committee should take place in early 1974, well in advance of the tenth session of the Codex Alimentarius Commission. No indication could be given, as yet, concerning the place of the next meeting.

SUMMARY OF STATUS OF WORK

1. Status of Standards

Standard at Step 8

- Draft Standard for Infant Formula 1/ (Appendix III to ALINORM 72/26)

Standards at Step 5

- Proposed draft Standard for Canned Baby Foods 1/ (Appendix IV to ALINORM 72/26)
- Proposed draft Standard for Foods for Infants and Children based on Cereals 2/ (Appendix IV to ALINORM 74/26)
- Proposed draft Standard for "Gluten-free" Foods 2/ (Appendix IV to ALINORM 74/26)

Standards at Step 3

- Proposed draft Standard for Foods for Use in a Diet for Diabetics (Appendix VII to ALINORM 70/26)
- Proposed draft Standard for Foods with Low-Carbohydrate Content (Carbohydrate Reduced Foods) (Appendix IX to ALINORM 70/26)
- Proposed draft Standard for Consumer Packaged Protein Foods (Appendix VII to ALINORM 71/26)

2. Food Additives in Foods for Infants and Children

A. Food Additives for Technological Purposes in Foods for Infants and Children

The proposed lists of food additives, which appear in Appendix IV, section 5 and Appendix V are based on technological grounds and not related to toxicological evaluation. They are subject to endorsement by the Codex Committee on Food Additives in accordance with toxicological evaluation by the Joint FAO/WHO Expert Committee on Food Additives (see paras 39 - 42 of this Report).

B. Lists of Mineral Salts and Vitamins

They are not part of the standards and should be quoted by reference only (to be elaborated. See paras 46-47 of this Report and Appendix VI).

3. Status of Codes of Practice, Guidelines, etc.

- Code of Hygienic Practice for Foods for Infants and Children (including table of Microbiological Standards) (to be prepared by the Codex Committee on Food Hygiene (see para 35 of this Report).
- General Principles concerning Foods for Special Dietary Uses and
- General Standard for Labelling of Foods for Special Dietary Uses to be examined by the eighth session of this Committee on the basis of papers to be prepared by the Australian delegation (paras 87-88).
- Labelling and Claims concerning Foods for People with Diabetes and other disturbances of digestion or metabolism. To be examined by the eighth session of this Committee on the basis of a paper to be prepared by the delegation of the United Kingdom (paras 87-88).

1/ Placed before the ninth session of the Codex Alimentarius Commission (Rome, November 1972)

2/ To be placed before the tenth session of the Codex Alimentarius Commission (Geneva, 1974)

ALINORM 74/26
APPENDIX I

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DATA TO BE USED FOR CALCULATING ENERGY VALUES OF FOODS OR FOOD GROUPS BY THE ATWATER SYSTEM[a]

Food or food group	Protein				Fat				Carbohydrate			
	Coefficient of digestibility	Heat of combustion less 1.25[b]	Factor to be applied to ingested nutrients		Coefficient of digestibility	Heat of combustion	Factor to be applied to ingested nutrients		Coefficient of digestibility	Heat of combustion	Factor to be applied to ingested nutrients	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	%	kcal/g	kcal/g	kJ/g	%	kcal/g	kcal/g	kJ/g	%	kcal/g	kcal/g	kJ/g
EGGS; MEAT PRODUCTS; MILK PRODUCTS												
Eggs	97	4.50	4.36	18.24	95	9.50	9.02	37.74	98	3.75	3.68	15.40
Gelatin	97	4.02	3.90	16.32	95	9.50	9.02	37.74	-	-	-	-
Glycogen	-	-	-	-	-	-	-	-	98	4.19	4.11	17.20
Meat, fish	97	4.40	4.27	17.87	95	9.50	9.02	37.74	-	-	[c]	-
Milk, milk products	97	4.40	4.27	17.87	95	9.25	8.79	36.78	98	3.95	3.87	16.19
FATS, SEPARATED												
Butter	97	4.40	4.27	17.87	95	9.25	8.79	36.78	98	3.95	3.87	16.19
Other animal fats	-	-	-	-	95	9.50	9.02	37.74	-	-	-	-
Margarine, vegetable	97	4.40	4.27	17.87	95	9.30	8.84	36.99	98	3.95	3.87	16.19
Other vegetable fats and oils	-	-	-	-	95	9.30	8.84	36.99	-	-	-	-
FRUITS												
All (except lemons, limes)	85	3.95	3.36	14.06	90	9.30	8.37	35.02	90	4.00	3.60	15.06
Lemons	85	3.95	3.36	14.06	90	9.30	8.37	35.02	98	2.75	2.70	11.30
Limes	85	3.95	3.36	14.06	90	9.30	8.37	35.02	98	2.75	2.70	11.30
GRAIN PRODUCTS												
Barley, pearl	78	4.55	3.55	14.85	90	9.30	8.37	35.02	94	4.20	3.95	16.53
Buckwheat flour, dark	74	4.55	3.37	14.10	90	9.30	8.37	35.02	90	4.20	3.78	15.82
Buckwheat flour, light	78	4.55	3.55	14.85	90	9.30	8.37	35.02	94	4.20	3.95	16.53
Cornmeal, whole ground	60	4.55	2.73	11.42	90	9.30	8.37	35.02	96	4.20	4.03	16.86
Cornmeal, degermed	76	4.55	3.46	14.48	90	9.30	8.37	35.02	99	4.20	4.16	17.41
Dextrin	-	-	-	-	-	-	-	-	98	4.11	4.03	16.86
Macaroni, spaghetti	86	4.55	3.91	16.36	90	9.30	8.37	35.02	98	4.20	4.12	17.24
Oatmeal, rolled oats	76	4.55	3.46	14.48	90	9.30	8.37	35.02	98	4.20	4.12	17.24
Rice, brown	75	4.55	3.41	14.27	90	9.30	8.37	35.02	98	4.20	4.12	17.24
Rice, white or polished	84	4.55	3.82	15.98	90	9.30	8.37	35.02	99	4.20	4.16	17.41
Rye flour, dark	65	4.55	2.96	12.33	90	9.30	8.37	35.02	90	4.20	3.78	15.82
Rye flour, whole grain	67	4.55	3.05	12.76	90	9.30	8.37	35.02	92	4.20	3.86	16.15
Rye flour, medium	71	4.55	3.23	13.51	90	9.30	8.37	35.02	95	4.20	3.99	16.69
Rye flour, light	75	4.55	3.41	14.27	90	9.30	8.37	35.02	97	4.20	4.07	17.03
Sorghum, vulgare[d]	55	4.55	2.50	10.46	90	9.30	8.37	35.02	96	4.20	4.03	16.86
Wheat, 97-100% extraction	79	4.55	3.59	15.02	90	9.30	8.37	35.02	90	4.20	3.78	15.82
Wheat, 85-93% extraction	83	4.55	3.78	15.82	90	9.30	8.37	35.02	94	4.20	3.95	16.53
Wheat, 70-74% extraction	89	4.55	4.05	16.95	90	9.30	8.37	35.02	98	4.20	4.12	17.24
Wheat, flaked, puffed, rolled, shredded, whole meal	79	4.55	3.59	15.02	90	9.30	8.37	35.02	90	4.20	3.78	15.82
Wheat bran (100%)	40	4.55	1.82	7.61	90	9.30	8.37	35.02	56	4.20	2.35	9.83
Other cereals, refined	85	4.55	3.87	16.19	90	9.30	8.37	35.02	98	4.20	4.12	17.24
Wild rice	78	4.55	3.55	14.85	90	9.30	8.37	35.02	94	4.20	3.95	16.53
LEGUMES; NUTS												
Mature dry beans, cowpeas, peas, other legumes; nuts	78	4.45	3.47	14.52	90	9.30	8.37	35.02	97	4.20	4.07	17.03
Immature lima beans, cowpeas, peas, other legumes	78	4.45	3.47	14.52	90	9.30	8.37	35.02	97	4.20	4.07	17.03
Soya bean, dry; soya flour, flakes, grits	78	4.45	3.47	14.52	90	9.30	8.37	35.02	97	4.20	4.07	17.03
SUGARS												
Cane or beet sugar (sucrose)	-	-	-	-	-	-	-	-	98	3.95	3.87	16.19
Glucose	-	-	-	-	-	-	-	-	98	3.75	3.68	15.40
VEGETABLES												
Mushrooms	70	3.75	2.62	10.96	90	9.30	8.37	35.02	85	4.10	3.48	14.56
Potatoes and starchy roots	74	3.75	2.78	11.63	90	9.30	8.37	35.02	96	4.20	4.03	16.86
Other underground crops[e]	74	3.75	2.78	11.63	90	9.30	8.37	35.02	96	4.00	3.84	16.07
Other vegetables	65	3.75	2.44	10.21	90	9.30	8.37	35.02	85	4.20	3.57	14.94
MISCELLANEOUS FOODS												
Chocolate, cocoa	42	4.35	1.83	7.66	90	9.30	8.37	35.02	32	4.16	1.33	5.56
Vinegar	-	-	-	-	-	-	-	-	98	2.45	2.40	10.04
Yeast	80	3.75	3.00	12.55	90	9.30	8.37	35.02	80	4.20	3.35	14.02

[a] In a few cases, values in columns 4, 8 and 12 are slightly different from those of Atwater because of a different method of rounding figures.

[b] The correction, 1.25 kcal, has been subtracted from the heat of combustion. This gives values applicable to g of digested protein and identical with Atwater's factors per g of available protein.

[c] Carbohydrate factor 3.87 for brain, heart, kidney, and liver; 4.11 for tongue and shellfish.

[d] Kurien, P. P., Narayanarao, M., Swaminathan, M. & Subrahmanyan, V. (1960) Brit. J. Nutr., 14, 339.

[e] Vegetables such as beets, carrots, onions, parsnips, radishes.

CONVERSION OF NITROGEN TO PROTEIN

FAO/WHO protein requirements are expressed as "crude protein" (nitrogen x 6.25) and are derived from an examination of data on nitrogen intake rather than protein intake. However, most food composition tables derive estimates of protein content by applying different factors to the nitrogen content of individual foods. These factors are shown in the accompanying table. They are generally based on the determination of nitrogen according to the method AOAC X (1960), page 12 1/, reproduced now as AOAC XI (1970), 2.049-2.051, using mercuric oxide or metallic mercury as a catalyst 2/. To compare the FAO/WHO protein requirements with the reported protein content of foods, a correction of the reported protein content must be made.

The correction factors to convert reported protein to crude protein are shown in the table. Before these corrections are applied, it must be acertained how the original values in the composition table were derived. The nitrogen conversion factors given in the table below are taken from Amino Acid Content of Foods and Biological Data on Proteins, Rome, FAO, 1970 (FAO Nutritional Studies No. 24).

FACTORS USED IN CONVERTING NITROGEN TO PROTEIN

Foodstuff	Correction factor for protein content as reported in food composition tables	Correction factor for conversion of reported protein to "crude protein"
CEREALS		
Wheat, hard, medium, or soft		
Whole meal or flour or bulgur	5.83	1.07
Flour, medium or low extraction	5.70	1.10
Macaroni, spaghetti, wheat pasta	5.70	1.10
Bran	6.31	0.99
Rice		
Husked or brown (only hulls removed))		
Home-pounded, undermilled, parboiled)	5.95	1.05
Milled, white)		
Rye		
Whole meal, dark flour)		
Flour, medium extraction)		
Flour, light, low extraction)		
Barley)		
Whole seed, except hulls and groats)	5.83	1.07
Pearled, light or dark)		
Oats)		
Oatmeal, rolled oats)		
PULSES, NUTS AND SEEDS		
Groundnuts, peanuts	5.46	1.14
Soya bean, seeds, flour or products	5.71	1.09

1/ This method is also reproduced in "Suggested Guideline for Sampling, Identification and Analytical Procedures for Foods" recommended in the Food Composition Table for Use in Africa, 1968 (page 5) a joint publication by FAO and the Nutrition Programme, U.S. Department of Health, Education and Welfare.

2/ According to a Working Paper (No. 6, 1970) presented by the U.S. delegation to the seventh session of the Codex Committee on Methods of Analysis and Sampling the standard deviation of 27 laboratories was 0.188 percent N with mercury as a catalyst and 0.238 percent N with copper.

Foodstuff	Correction factor for protein content as reported in food composition tables	Correction factor for conversion of reported protein to "crude protein"
Treenuts		
Almond	5.18	1.21
Brazil nut	5.46	1.14
Coconuts (outer husk removed)		
Old ripe, in shell		
Young, under-ripe, in shell	5.30	1.18
Chestnuts		
Fresh		
Dry		
Treenuts, other		
Seeds		
Sesame, safflower, sunflower	5.30	1.18
MILK AND CHEESE		
Milk, all species, fresh or dry		
Cheese, hard or soft	6.38	0.98
Whey cheese		
OILS AND FATS		
Margarine (either vegetable or animal)	6.38	0.98
Butter		
OTHER FOODS	6.25	1.00

APPENDIX III

MICROBIOLOGICAL STANDARDS FOR FOODS FOR INFANTS AND CHILDREN

	a	b	c	d
	Ready-to-use products as far as not covered by b, c or d	Dried or instant products to be consumed after the addition of liquid	Products requiring cooking 1/ prior to consumption	Products preserved by thermal treatment in sealed containers, and preparations canned under sterile conditions
Aerobic plate count 2/	no more than 10.000 in 1 g	no more than 50.000 in 1 g	no more than 200.000 in 1 g	After 14 days' incubation at 30°C no abnormal physical chemical or organoleptic changes shall be observed. 1 g of the substance shall not contain more than 100 non-pathogenic, non toxin forming aerobic germs. Products intended for tropical climates shall be incubated 14 days at 55°C.
Coliform bacteria	no more than 1 in 0.1 g	no more than 1 in 0.01 g	no more than 1 in 0.001 g	
Escherichia coli	no more than 1 in 1 g	no more than 1 in 1 g	no more than 1 in 0.1 g	
Yeasts and moulds	no more than 300 in1 g	no more than 300 in 1 g	no more than 1000 in 1 g	
Anaerobic spore-forming organisms (*Clostridia*)	no more than 1 in 0.1 g	no more than 1 in 0.1 g	no more than 1 in 0.01 g	
Salmonellae and *Schigellae*	no more than 1 in 30 g	no more than 1 in 30 g	no more than 1 in 30 g	
Coagulase-positive *Staphylococci*	no more than 1 in 1 g	no more than 1 in 1 g	no more than 1 in 1 g	

1/ "Cooking means heating the product to at least 100°C for a period of at least 3 minutes.

2/ Not applicable to products acidified by lactic acid-forming bacteria.

CULTURE MEDIA FOR THE MICROBIOLOGICAL CONTROL OF FOODS FOR INFANTS AND CHILDREN

Determination of	Culture media and techniques	Literature 1/
Aerobic plate count	Tryptone-glucose-yeast extract Agar	Milchw. 16, 650 (1961); Die Fleischwirtschaft 47, 1313 (1967)
Coliform bacteria	Brilliant green-lactose-bile bouillon	American standard method for the examination of dairy products, 9th Ed. APHA 1948; Netherlands Standard Specification NEN 955, Neth. Milk Dairy J. 16, 302 (1962)
Escherichia coli	As under 2, in addition test for gas and indol formation at 44°C	Zbl. Bakt. I. Orig. 208
Yeasts and moulds	Brewers' wort-peptone-agar-Sabouraud-agar	
Clostridia	Differential-reinforced clostridial-medium (DRCM) according to Gibbs and Frame	J. Appl. Bact. 28, 95 (1965)
	Sulfite-acid-thioglycolate-culture medium (SAT) according to Levetzow	Arch. Lebensmittelhyg. 18, 217 (1962)
Salmonellae and Shigellae	According to usual methods using liquid enrichment culture media	
Coagulase-positive Staphylococci	Biard-Parker-medium	J. App. Bacteriol. 25, 12-19 (1962)

1/ The United States of America recommended the methodology of F.S. Thatcher and D.S. Clark in "Micro-organisms in Food; Their significance and Methods of Enumeration", Toronto, 1968.

APPENDIX IV

PROPOSED DRAFT STANDARD FOR PROCESSED FOODS FOR INFANTS AND CHILDREN BASED ON CEREALS

(Submitted to the Commission at Step 5 of the Prodedure for the Elaboration of World-wide Standards)

1. SCOPE

Processed Foods for Infants and Children Based on Cereals are foods intended for use during the weaning period of normal infants or to supplement the diet of children.

2. DESCRIPTION

2.1 Dry cereals for infants and children are foods based on cereals and/or legumes (pulses), processed to a low moisture content and so fragmented as to permit dilution with water, milk or other suitable liquid or, as in the case of preparations such as pasta, used after cooking in boiling water or other liquids.

2.2 Simple or composite cooked flours of cereals are products which have been cooked in a way that distinguishes them as follows:

2.2.1 Partially cooked flours - which require a second short cooking before use.

2.2.2 Cooked flours as such or for immediate use - which need no further cooking before use.

2.2.3 Dextrinised flours - which are flours in which the starch has been partially transformed into dextrin by heat treatment.

2.3 Enzyme treated flours of cereals are flours prepared with enzymes, the starch of which has been transformed into dextrin, maltodextrin, and maltose.

2.4 Rusks and biscuits are cereal based foods for infants and children, produced by baking process, which may be used either directly or, after pulverization, with the addition of water, milk or other suitable liquids. "Milk biscuits" consist primarily of cereals and contain milk solids.

2.5 Pasta are foods prepared from milled cereal products suitable for the weaning period.

3. DEFINITIONS

3.1 The term "infants" applies to children less than 12 months of age.

3.2 The term "children" applies to young children between 1 and 3 years of age.

3.3 The term "Calorie" means "kilocalorie" or "large calorie" (1 kilojoule is equivalent to 0.239 kilocalories).

4. ESSENTIAL COMPOSITION AND QUALITY FACTORS

4.1 Essential Composition

4.1.1 Dry cereal, rusk, biscuits and pasta are prepared primarily from one or more milled cereal products, such as wheat, rice, barley, oats, rye, maize, millet, sorghum and buckwheat and/or legumes (pulses) and also, sesame, arachis and soybean (defatted or low fat).

4.1.2 Milk biscuits are prepared from one or more milled cereal products with the addition of not less than 25% m/m milk solids. 1/

4.2 Optional Ingredients

4.2.1 In addition to the raw materials listed under 4.1, the following ingredients may be added:

- protein concentrates and other high protein ingredients suitable for consumption by infants and children. Essential amino acids may be added to improve protein quality, only in amounts necessary for that purpose. Only natural L forms of amino acids may be used;
- milk and milk products;
- eggs;
- meat;
- fats and oils;
- fruits and vegetables;
- nutritive sweeteners;
- malt;
- honey;
- cocoa (only in products to be consumed after [12] months of age, and at the maximum level of [5] percent m/m on a dry basis);
- potatoes;
- starches, including enzyme modified starches and starches treated by physical means.

1/ Note by the Secretariat: It is understood by the Secretariat that the provision for 25% m/m milk solids refers to the final product.

4.2.2 /Salt (NaCl) shall not exceed 0.25% m/m in the final product as consumed/. Iodized salt may only be added in accordance with the legislation of the country in which the food is sold.

4.2.3 Vitamins and minerals may only be added in accordance with the legislation of the country in which the food is sold.

4.3 Quality Factors

4.3.1 All ingredients, including optional ingredients, shall be clean, safe, suitable and of good quality.

4.3.2 The moisture content of the products shall be reduced to a level at which micro-organisms cannot multiply.

4.4 Consistency and Particle Size

4.4.1 When reconstituted according to the label directions for use, dry cereal is of a soft, smooth texture, free of lumps and chewable particles and is suitable for spoon feeding of infants and children.

4.4.2 Rusks and biscuits may be used in the dry form so as to permit and encourage chewing or they may be used and promoted for use in a liquid form, by mixing with water or other suitable liquid, that would be similar in consistency to dry cereals.

4.5 Specific Prohibition

/The product and its components shall not have been treated by ionizing radiation/.

5. 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

5.1 The food additives listed below are subject to selection according to national legislation, no more than two additives being used from each group in a product.

Name of Substances	Quantity in percent m/m in ready-to-eat-product
5.1.1 Thickening Agents	
Guar gum 1/	1
Locust bean gum 1/ (Caroub gum)	1
Pectin	1.5
Alginic acid and its sodium, potassium and calcium salts	1
Agar-agar	1
5.1.2 Emulsifiers	
Lecithin	1.3
Mono and di-glycerides of long-chain fatty acids which occur naturally in food	3
5.1.3 Inorganic Stabilizers	
Calcium chloride	GMP
5.1.4 pH Adjusting Agents	
Sodium bicarbonate Potassium bicarbonate Calcium carbonate Sodium hydroxide Citric acid L-lactic acid	GMP
5.1.5 Antioxidants	
Tocopherols 1-Ascorbyl-6-palmitate l-ascor acid and its sodium and potassium salts	GMP

1/ Subject to toxicological evaluation.

Name of Substances	Quantity in percent m/m in ready-to-eat-product
5.1.6 Flavours	
Harmless natural flavouring materials and their identical synthetic counterparts Ethyl vanillin	GMP
5.1.7 Enzymes	
Amylase	GMP

5.2 Carry-over

The carry-over principle applies as defined by the Codex Committee on Food Additives, unless otherwise stated.

6. CONTAMINANTS

The following provisions in respect of contaminants are subject to endorsement by the Codex Committee on Food Additives.

6.1 Pesticide Residues

The product shall be prepared with special care under good manufacturing practices, so that residues of those pesticides which may be required in the production, storage or processing of the raw materials or the finished food do not remain, or, if technically unavoidable, are reduced to the maximum extent possible.

6.2 Other Contaminants

The product shall be free from residues of hormones, antibiotics and practically free from other contaminants.

7. HYGIENE

The following provisions have been endorsed or are subject to endorsement 1/ by the Codex Committee on Food Hygiene.

7.1 When tested by appropriate methods of sampling and examination the product

(a) shall be free from pathogenic micro-organisms and
(b) shall not contain any substances originating from micro-organisms in amounts which may be toxic.

7.2 The product shall be clean and free of poisonous or deleterious substances which may render it injurious to health. It shall be prepared, packed and held under sanitary conditions and should comply with the Code of Hygienic Practice for Foods for Infants and Children (to be prepared by the Codex Committee on Food Hygiene).

8. PACKAGING

8.1 The product shall be packed in containers which will safeguard the hygienic and other qualities of the food.

8.2 The containers including packaging material shall be made only of substances which are safe and suitable for their intended use. Where the Codex Alimentarius Commission has established a standard for any such substance used as packaging material, that standard shall apply.

9. 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).

9.1 The Name of the Food

The name of the food shall be: "Dry Cereal for Infants (and/or Children)", "Rusks for Infants (and/or Children)" or "Biscuits (or "Milk Biscuits") for Infants (and/or Children)" or "Pasta for Infants (and/or Children)", or any appropriate designation indicating the true nature of the food, in accordance with national legislation.

9.2 List of Ingredients

9.2.1 A complete list of ingredients shall be declared on the label in descending order of proportion except that in the case of added vitamins and added minerals these ingredients need not be listed in such an order.

1/ Subsection 7.2 is subject to endorsement, see paras 73-74

9.2.2 The specific and not the class name shall be declared for ingredients and food additives.

9.3 Declaration of Nutritive Value

9.3.1 A statement of the number of available Calories (or available kilojoules), and the amount of protein, fat, available carbohydrates and crude fibre supplied by a specified quantity of the food shall be declared on the label.

/9.3.2 A statement on the label of the quantity of each vitamin and mineral added to the food shall be subject to national legislation/.

9.4 Net Contents

The net contents shall be declared by weight except that when rusks and biscuits for infants (and/or children) are usually sold by number a declaration of count may be made. The declaration of weight shall be made in either the metric ("Systeme international" units) or avoirdupois or both systems of measurement as required by the country in which the food is sold.

9.5 Name and Address

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

9.6 Country of Origin

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

9.6.2 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 purpose of labelling.

9.7 Lot Identification

9.7.1 Each container shall be embossed or otherwise permanently marked in a code which identifies the manufacturer and the lot.

9.7.2 The date /of manufacture/ /and/or expiry/ shall appear on the label /in code/ or /in clear/.

9.8 Information for Utilization

Directions as to the preparation and use of the food, and its storage and keeping before and after the container has been opened shall appear on the label or the accompanying leaflet.

10. METHODS OF ANALYSIS AND SAMPLING

The methods of analysis and sampling described hereunder are international referee methods (which have been endorsed by the Codex Committee on Methods of Analysis and Sampling unless otherwise stated).

10.1 Determination of Moisture Content

According to the AOAC (1970) method 1/ (Official Methods of Analysis of the AOAC, 1970, 7.003: Moisture - Official Final Action. I.Drying in Vacuo at 95 - 100°(2)) Results are expressed as g moisture/100 g.

10.2 Determination of Ash Content

According to the AOAC (1970) method (Official Methods of Analysis for the AOAC, 1970, 7.010: Ash (7) - Official Final Action). Results are expressed as g ash/100 g to the first decimal place.

10.3 Determination of Fat Content

(Methods to be endorsed) 2/

10.4 Determination of Crude Fibre Content

(Method to be endorsed) 3/

1/ Temporarily endorsed (ALINORM 72/23, para 26)
2/ See ALINORM 72/23 para 28 and this Report paras 6-7)
3/ See ALINORM 72/23 paras 29, 30 and 31 and this Report para 9, and Appendix IIB

10.5 Determination of Protein Content

(Method to be endorsed).1/

10.6 Determination of Available Carbohydrates Content

(Methods to be endorsed).2/

10.7 Calculation of Available Calories (Available Kilojoules)

(Method to be endorsed).3/

10.8 Determination of Sodium Content

According to the U.S. flame photometry method, using dry-ashing at 525-550° (CX/FSDU 71/17) 4/.

10.9 Determination of Chloride Content

(Method to be proposed by governments).

10.10 Determination of Milk Solids Content

(Method to be proposed by governments).

10.11 Determination of Cocoa Solids Content

(Method to be proposed by governments).

APPENDIX V

Food Additives for Technological Purposes in Foods for Infants and Children

A. Draft Standard for Infant Formula

5. 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.

5.1 The food additives listed below are subject to national legislation, no more than two additives being used from each group in a product.

Name of Substance	Quantity in percent m/m in ready-to-eat-product
5.1.1 Thickening Agents	
Guar Gum 5/	0.1
Locust Bean Gum (Caroub Gum) 5/	0.1
Modified Starch: 6/	
(a) Distarch phosphate	
(b) Acetylated distarch phosphate	
(c) Phosphated distarch phosphate	
(d) Hydroxypropyl starch singly or in combination	0.5 7/
Carrageenans	0.1
Pectin	0.5
Alginic acid and its sodium, potassium and calcium salts	0.3
Agar-Agar	0.1
5.1.2 Emulsifiers	
Lecithin	0.6
Mono- and di-glycerides of longchain fatty acids which occur naturally in in food fats	0.5

1/ See ALINORM 72/23 paras 29, 30 and 31 and this Report para 9, and Appendix IIB
2/ See ALINORM 72/23 para 32 and this Report para 10.
3/ See ALINORM 72/23 para 31 and this Report para 8 and Appendix IIA
4/ Temporarily endorsed (ALINORM 72/23 paras 38 and 60)
5/ Subject to toxicological evaluation.
6/ Physically and enzyme treated starches are considered foods by the Codex Committee on Food Additives
7/ In special formulae, e.g. meat based products higher levels up to 3% may be needed

Name of Substance	Quantity in percent m/m in ready-to-eat-product
5.1.3 Inorganic Stabilizers	
Sodium Hexametaphosphate	0.1
5.1.4 pH Adjusting Agents	
Sodium hydrogen sulphate Potassium hydrogen sulphate Sodium hydrogen Carbonate Sodium Carbonate Potassium hydrogen Carbonate Potassium Carbonate L(+) Lactic Acid Citric Acid and its Sodium and Potassium Salts Acetic Acid L(+) Lactic Acid producing cultures	GMP
5.1.5 Antioxidants	
Tocopherols 1-Ascorbyl-6-palmitate	GMP

B. Proposed Draft Standard for Canned Baby Foods

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

4.1 The food additives listed below are subject to selection according to national legislation, no more than two additives being used from each group in a product.

Name of Substance	Quantity in percent m/m in ready-to-eat-product
4.1.1 Thickening Agents	
Guar Gum 1/	1.5
Locust Bean Gum 1/ (Carob Gum)	1.5
Modified Starch 2/	
(a) Distarch phosphate (b) Acetylated distarch phosphate (c) Phosphated distarch phosphate (d) Acetylated distarch adipate (e) Hydroxypropyl starch singly or in combination	6
Carrageenans	1
Pectin	5
Alginic Acid and its Sodium Potassium and Calcium Salts	1.5
Agar-Agar	1
4.1.2 Emulsifiers	
Lecithin	1
Mono- and di-glycerides of long-chain fatty acids which occur naturally in food fats	3
4.1.3 Inorganic Stabilizers	
Calcium chloride	GMP
4.1.4 pH Adjusting Agents	
Sodium hydrogen Carbonate Sodium Carbonate Potassium hydrogen Carbonate	GMP

1/ Subject to toxicological evaluation.
2/ Physically and enzyme treated starches are considered foods by the Codex Committee on Food Additives.

Calcium Carbonate Sodium Hydroxide Citric Acid and its Sodium Salt Acetic Acid Malic Acid L(+) Lactic Acid	GMP

4.1.5 Antioxidants

Tocopherols 1-Ascorbyl-6-palmitate 1-Ascorbic acid and its Sodium and Potassium Salts	GMP

4.1.6 Flavours

Harmless natural flavouring materials and their identical synthetic counterparts Ethyl vanillin	GMP

4.2 Carry-over

The carry-over principle applies as defined by the Codex Committee on Food Additives, unless otherwise stated.

APPENDIX VI

MINERAL SALTS FOR USE IN FOODS FOR INFANTS AND CHILDREN

1. Calcium

Calcium carbonate
Calcium chloride
Calcium citrate
Calcium gluconate
Calcium hydroxide
Calcium phosphate, monobasic
Calcium phosphate, dibasic
Calcium phosphate, tribasic
Calcium lactate
Calcium orthophosphate
Calcium glycerophosphate
Calcium malate
Calcium glycuronate

2. Phosphorus

Calcium phosphate, monobasic
Calcium phosphate, dibasic
Calcium phosphate, tribasic
Magnesium phosphate, dibasic
Magnesium phosphate, tribasic
Potassium phosphate, monobasic
Potassium phosphate, dibasic
Sodium phosphate, dibasic
Sodium ferric pyrophosphate

3. Magnesium

Magnesium sulphate
Magnesium acetate
Magnesium chloride
Magnesium oxide
Magnesium phosphate, dibasic
Magnesium phosphate, tribasic

4. Iron

Ferrous sulphate
Sodium ferric pyrophosphate
Ferrrous lactate
Ferrous citrate
Ferric tartrate
Ferrous succinate
Ferrous gluconate
Ferrous glucuronate
Ferrous glycerophosphate
Ferric ammonium citrate

5. Copper

Cupric sulphate
Copper gluconate
Copper acetate
Copper citrate

6. Iodine

Potassium iodide
Sodium iodide
Sodium chloride, iodized
Calcium iodostearate

7. Zinc

Zinc sulphate
Zinc chloride
Zinc lactate
Zinc acetate

8. Manganese

Manganese sulphate
Manganese chloride
Manganese lactate
Manganese citrate
Manganese carbonate

9. Sodium

Sodium hydrogen carbonate
Sodium chloride
Sodium chloride, iodized
Sodium citrate
Sodium ferric pyrophosphate
Sodium iodide
Sodium phosphate, dibasic
Sodium sulphate
Sodium orthophosphate
Sodium diphosphate
Sodium glycerophosphate
Sodium lactate
Sodium malate
Sodium gluconate
Sodium glucuronate

10. Potassium

Potassium hydrogen carbonate
Potassium carbonate
Potassium chloride
Potassium citrate
Potassium hydroxide
Potassium iodide
Potassium phosphate, monobasic
Potassium phosphate, dibasic
Potassium orthophosphate
Potassium diphosphate
Potassium glycerophosphate
Potassium lactate
Potassium citrate
Potassium malate
Potassium gluconate
Potassium glucuronate

11. Chloride

Calcium chloride
Magnesium chloride
Potassium chloride
Sodium chloride
Sodium chloride, iodized

12. Choline

Choline chloride

APPENDIX VII

PROPOSED DRAFT STANDARD FOR "GLUTEN-FREE" FOODS

(Submitted to the Commission at Step 5 of the Procedure for the Elaboration of World-Wide Standards)

1. SCOPE

1.1 This standard applies to foods which are represented directly or indirectly or by implication as intended for special dietary uses by reason of being "free" from gluten.

1.2 The standard refers only to the specific provisions related to the special dietary purpose for which these foods are intended.

2. DEFINITION

2.1 For the purpose of this standard, gluten includes such protein fractions of wheat, rye, barley and oats which are capable of causing gluten induced enteropathies.

2.2 "Gluten-free" food is a food so described, containing wheat, rye, barley or oat flour, from which the gluten has been extracted or in which ingredients not containing gluten have been substituted for the wheat, rye, barley or oat flour normally used in foods of that kind.

2.3 For the purpose of this standard "gluten-free" means that the gluten content, if any, does not cause signs of intolerance when consumed by persons sensitive to gluten under clinical testing conditions.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

A "gluten-free" food shall be based on or shall contain

(i) wheat, rye, barley or oat flour from which all gluten has, so far as is practicable, been extracted or,

(ii) ingredients which do not contain gluten in substitution for wheat, rye, barley or oat flour normally used in a food of that kind, or

(iii) any mixture of two or more such ingredients.

4. LABELLING

4.1 In addition to the appropriate provisions of the Recommended International General Standard for the Labelling of Prepackaged Foods (CAC/RS-1(1969)) relating to the particular food concerned, the following specific provisions for the labelling of "gluten-free foods" shall apply. These provisions are subject to endorsement by the Codex Committee on Food Labelling.

4.2 The description of "gluten-free" shall be given in immediate proximity to the name of the product.

4.3 The label shall also bear an indication of (a) the carbohydrate, protein and fat contents, and (b) the calorie value of an average helping of a specified size or, where appropriate, of a unit (e.g. one biscuit) of the product.

4.4 The true nature of the carbohydrate (or carbohydrates) and the protein (or proteins) present in the product shall be declared on the label.

5. PACKAGING

A "gluten-free" food shall only be sold in a container.

6. METHODS OF ANALYSIS AND SAMPLING

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

6.1 Determination of Moisture Content

According to the AOAC (1970) method 1/ (Official Methods of Analysis of the AOAC, 1970, 7.003: Moisture - Official Final Action. I. Drying in Vacuo at 95 - 100°(2)) Results are expressed as g moisture/100 g.

6.2 Determination of Ash Content

According to the AOAC (1970) method (Official Methods of Analysis for the AOAC, 1970, 7.010: Ash (7) - Official Final Action). Results are expressed as g ash/100 g to the first decimal place.

6.3 Determination of Fat Content

(Methods to be endorsed) 2/

6.4 Determination of Crude Fibre Content

(Method to be endorsed) 3/

6.5 Determination of Protein Content

(Method to be endorsed) 3/

6.6 Determination of Available Carbohydrates Content

(Methods to be endorsed) 4/

6.7 Calculation of Available Calories (Available Kilojoules)

(Method to be endorsed) 5/

1/ Temporarily endorsed (ALINORM 72/23, para 26) for other products.
2/ See ALINORM 72/23 para 28 and this Report para 6-7
3/ See ALINORM 72/23 para 29, 30 and 31 and this Report para 9, and Appendix II B.
4/ See ALINORM 72/23 para 32 and this Report para 10
5/ See ALINORM 72/23 para 31 and this Report para 8 and Appendix II A