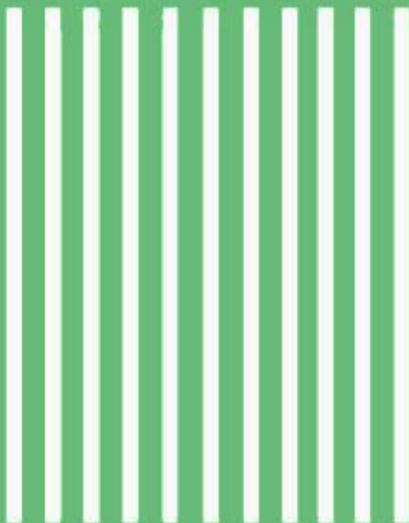


Joint FAO/WHO Food Standards Programme

**JOINT FAO/WHO COMMITTEE  
OF GOVERNMENT EXPERTS  
ON THE CODE OF PRINCIPLES  
CONCERNING MILK AND MILK  
PRODUCTS**

Report of the Twenty-second Session

Held in Rome, Italy, 5-9 November 1990



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS  
WORLD HEALTH ORGANIZATION  
Rome



**CX 5/70 - 22nd Session**

**REPORT  
of the  
TWENTY-SECOND SESSION of the  
JOINT FAO/WHO COMMITTEE OF GOVERNMENT  
EXPERTS ON THE CODE OF PRINCIPLES CONCERNING  
MILK AND MILK PRODUCTS**

**Held at FAO Headquarters**

**Rome, Italy**

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**FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS**

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## SUMMARY OF POINTS FOR ACTION BY GOVERNMENTS

1. Governments are asked to make their comments available by 30 November 1991 at the latest. All communications should be sent,

if possible in duplicate, and addressed to the Technical Secretary, Committee on the Code of Principles concerning Milk and Milk Products, Animal Production and Health Division, FAO, Rome.

2. Governments may send observations on any matters they would wish to raise.

Those specific points on which the Committee agreed that comments should be sought are the following:

- |  |   |
|--|---|
| Acceptance of the Code of Principles                             | - Governments to continue to submit their acceptances. In view of the fundamental importance of the Code, the Committee recommends to Governments to give acceptances without deviations or reservations. (See 8th Edition of the Code of Principles CAC/Vol XVI Ed. 1, 1984).  |
| Draft Standard A-16 for Low-Fat Dairy Spreads                    | - The Committee has requested IDF to elaborate a broader scope standard for fat spreads as a whole in consultation with the Codex Committee on Fats and Oils and an organization representative of world interests in margarine. The Milk Committee should inform Codex Alimentarius Commission of the Milk Committee's wish to put this on the agenda for its next session. Pending the CAC's endorsement, Government views on the issue are sought. |
| Draft Standard for Cheese in Brine                               | - Advanced to Step 5, (see paras 77-79 and Appendix IX). Government comments are invited.   |
| Draft International Group Standard for Uncured/Unripened cheeses | - To be circulated to Governments at Step 5 for further comments (see paras 80-84 and Appendix X)   |
| Draft Standard for Edible Rennet Casein                          | - Governments are asked to comment in particular on the inclusion of a third category (see paras 95-96 and Appendix XI when the revised standard is circulated for comments at Step 5)  |
| Draft Standard for Food Grade Sweet and Acid Whey Powders        | - Governments are asked to comment on the Standard at Step 5 (see paras 98-102 and Appendix XII)  |

Proposed Amendment to the General Standard for Cheese

- Government comments are invited on a proposal to change Section 2.A of the General Standard for Cheese (A-6), (see para 121)

Paraffin Wax

- IDF member countries had been urged to supply JECFA with information on paraffin wax used for cheese coating to assist with the evaluation of its safety-in-use. Paraffin wax is now on JECFA's priority list for evaluation. The Committee strongly supports the submission of data and information to JECFA.

**REPORT OF THE TWENTY-SECOND SESSION OF THE**  
**JOINT FAO/WHO COMMITTEE OF GOVERNMENT EXPERTS**  
**ON THE CODE OF PRINCIPLES CONCERNING MILK AND MILK PRODUCTS**  
**Rome. 5-9 November 1990**

**INTRODUCTION**

1. The Twenty-second Session of the Joint FAO/WHO Committee of Government Experts on the Code of Principles concerning Milk and Milk Products was held at FAO Headquarters in Rome, from 5-9 November 1990. The Session was attended by 113 representatives and observers from 37 countries, and observers from 4 international organizations (see Appendix I for the List of Participants).
2. The Committee was presided over by its Chairman, Dr. G.A. Bastin (Germany), and its Vice-Chairmen Mr. A. Oterholm (Norway) and Ir. J.M. Van der Bas (Netherlands). The Joint Secretaries were Dr. J.A. Phelan (FAO) and Dr. N. Rao Maturu (Joint FAO/WHO Food Standards Programme). Mr. D. Byron assisted the Joint Secretaries.
3. The Twenty-second Session of the Committee was convened by the Directors-General of FAO and WHO. The meeting was opened by Mr. J.R. Lupien, Chief, Joint FAO/WHO Food Standards Programme, who reviewed the programme of work of the Committee, the progress being made by the Codex Alimentarius Commission on standards and their acceptance by governments and the FAO's dairy development activities related to the work of the Committee. Mr. Lupien referred to the current Uruguay Round of Multilateral Trade Negotiations (the General Agreement on Tariffs and Trade (GATT)) including discussions on reducing or harmonizing sanitary or phytosanitary measures as barriers to trade. Although the Uruguay Round was not yet completed, there was no doubt that the impact of the trade ministers GATT decisions would be significant for the work of Codex and the application of Codex standards to international trade in food, including milk products. Mr. Lupien also stressed that the Codex Alimentarius Commission attached particular importance to the needs of developing countries as evidenced by the emphasis being laid on standards and Codes of Practice of interest to these countries. Mr. Lupien then referred to the important part played by economic groupings of states, such as the European Economic Community (EEC) and by industry groups in advising member governments on Codex matters.

**Election of Chairman and Vice-Chairmen for the 23rd Session**

4. The Committee unanimously elected Mr. A. Oterholm (Norway) as Chairman of the Committee, to serve from the end of the 22nd Session until the end of the 23rd Session. The Committee also unanimously elected Ir. J.M. van der Bas (Netherlands) and Dr. K. Marshall (New Zealand) to be the first and second Vice-Chairmen, respectively, both to serve from the end of the 22nd until the end of the 23rd Session. The Committee expressed its appreciation to the outgoing Chairman of the Committee and the Vice-Chairmen.

**In Memoriam**

5. The Committee observed one minute's silence in memory of three former Chairmen, Mr. Tom Hall (New Zealand), Dr. Bob Weik (U.S.A.) and Dr. K.P. Andersen (Denmark), who had passed away since its previous session.

## **ADOPTION OF THE AGENDA (Agenda Item 2)**

6. Following a suggestion by the Chairman, the provisional agenda was adopted with some rearrangement in the order of items to be discussed.

## **ACCEPTANCE OF THE CODE OF PRINCIPLES AND ASSOCIATED STANDARDS (Agenda Item 3 a))**

7. The latest position regarding government acceptances of the Code of Principles, the associated standards and methods of analysis and sampling is given in Appendix II.

8. The Observer of the EEC reminded the Committee that the Codex Alimentarius Commission had recently adopted measures by which regional economic groupings such as the EEC could accept Codex standards where competence to accept them had been transferred to them by their Member States. It was noted further that the EEC was also developing the legal means to allow it to accept Codex standards.

## **PROMOTION AND USE OF MILK PRODUCT STANDARDS - DISCUSSION OF THE IDF STATEMENT (Agenda Item 3b)**

9. In introducing document MDS 90/3 (b) the observer of the International Dairy Federation (IDF) underlined the importance of the Milk Committee as a unique forum for a constructive dialogue between governments and dairy interests worldwide, including countries with a developed dairy industry and countries where the dairy industry was still in its infancy. The observer added that the success of the Milk Committee's work should not be judged in terms of the number of standards accepted by governments. The Codex standards have been extensively used by nations in preparing or revising national legislation or regulations and as reference standards in international trade. The dairy industry has pioneered technological developments and, as such, it has been an inspiration to the food industry in general.

10. The Delegation of India stated that little use was made of Codex standards in international trade and this warranted attention from the Committee. The Chief of the Joint FAO/WHO Food Standards Programme, however, indicated that the subject of acceptances, including the improvement and promotion of Codex standards for use in international trade, would be discussed at the forthcoming FAO/WHO Conference on Food Standards, Chemicals in Food and Food Trade in March 1991.

## **MATTERS OF INTEREST ARISING FROM THE CODEX ALIMENTARIUS COMMISSION AND OTHER CODEX COMMITTEES (Agenda Item 4a)**

11. The Committee had before it document MDS 90/4 (a) which summarized matters of interest arising from the Codex Alimentarius Commission and other Codex Committees. The Committee noted that many of these issues would be discussed in detail under other Agenda Items.

### **Guideline Levels of Radionuclides in Food for Use in International Trade**

12. The Committee noted that the Commission at its 18th Session had adopted Codex Guideline Levels for Use in Food (Foods destined for General Consumption and Milk and Infant Foods) for use in International Trade following a nuclear accident. The Committee also noted that the subject remained under review, as levels for radionuclides in food following a nuclear accident may need to be established on a more permanent basis and agreement should be reached regarding dilution factors and treatment of minor dietary components. The subject would be discussed by the 23rd Session of the Codex Committee on Food Additives and Contaminants (CCFAC) on the basis of government comments received.

### Proposals for General Provisions for the Use of Food Additives in Standardized and Non-Standardized Foods

13. The Committee noted that the CCFAC was considering a horizontal approach for establishing general provisions for the use of food additives in standardized and non-standardized foods. The subject would be further discussed by the CCFAC at its 23rd Session.

### Food Standards Conference

14. The Committee was informed that a Joint FAO/WHO Conference on Food Standards, Chemicals in Food and Food Trade would be held in Rome, 18-27 March 1991, and that this Conference would, in addition to other matters, evaluate the essential requirements and acceptable quality criteria included in Codex standards, as well as the use of Codex standards in trade agreements.

### Codex Guidelines

15. The Committee noted that the 37th Session of the Executive Committee (ALINORM 91/3, paras. 39-43) had expressed the view that Codex Guidelines were advisory texts and should follow the Codex Step Procedure in their elaboration. The document (CX/EXEC 90/8), considered by the Executive Committee had been circulated to governments for comments. The subject was also a matter for discussion at the Food Standards Conference and at the 19th Session of the Codex Alimentarius Commission.

### **MATTERS OF INTEREST ARISING FROM IDF SESSIONS (Agenda Item 4 b)**

16. The observer from the International Dairy Federation (IDF) introduced documents MDS 90/4 (b) and CRD 1, which summarized information of relevance to the Committee, arising from recent meetings of the IDF:

- IDF's Guidelines for the Preparation and Use of Export Certificates for Milk and Milk Products and a Model Certificate were proposed and strongly advocated by IDF for adoption by the Committee.
- IDF recommended that lactose should always be expressed as lactose (anhydrous).
- Recent publications included:
  - Standard of Identity for Lactic Acid Starters
  - Updating of 1968 paper on Radioactive Contamination of Milk.
- IDF member countries had been urged to supply JECFA with information on paraffin wax used for cheese coating, so as to allow JECFA to consider its safety-in-use. Paraffin wax was now on JECFA's priority list for evaluation.
- A very comprehensive range of topics concerned with microbiological hygiene was now on IDF's agenda, managed at the highest level by a newly created IDF Task Force on Hygiene.
- A General Standard for Yellow Fat Spreads was now under development in IDF.
- In response to questions on aflatoxin put to the Committee by the Codex Committee on Food Additives and Contaminants, IDF had prepared a draft statement.
- Revision of IDF Standard 47 - Fermented milks, was almost complete. Work on a comparable standard for fermented milks, heat treated after fermentation, would now commence.

- Consideration of nomenclature for milk proteins and milk protein products was now restricted only to the selection and definition of a suitable generic term, e.g. Milk Protein, for labelling and particularly ingredients listing of composite foods.
- A new subject in IDF was the consideration of all aspects of the standardization of Protein content, particularly in powdered milk products for international trade.

17. The Committee took note of the IDF report and the Chairman thanked IDF for its valuable assistance to the Milk Committee, especially to its Ad Hoc Steering Group in preparing for the 22nd Session.

#### **DRAFT STANDARD A-16 FOR LOW FAT DAIRY SPREADS (Agenda Item 5)**

18. The Committee had before it documents MDS 90/5 and MDS 90/Misc. 1 when discussing this agenda item, which summarized government comments submitted in response to CL 1988/21-MDS regarding Standard A-16, (see paras. 41-47 and App. XIV of CX 5/70 - 21st Session).

19. The Delegation of Germany informed the Committee that, since the submission of its government's comment, legislation in his country was in course of changing and the name proposed for the product was "Halbfettbutter" (half fat butter). The Danish delegation referred to new legislation in its country allowing the product to be sold. The name prescribed was "butter 40" (referring to the fat content).

20. The Delegation of Germany also proposed that the requirement for water content (section 3.1.4) should be deleted since the water content is already limited by the other ingredients.

21. The Delegation of France stated that recent legislation in its country had been introduced in response to consumer demand for the products brought on to the market by manufacturers. However the French legislation was designed to cover the whole range of products, whether of higher and of lower fat content and whether comprising only milk fat or a mixture of fats. He referred to the work currently in hand in IDF and in the European Community (EEC) on fat spreads, which were similar in scope. The United Kingdom delegation also emphasized the importance of legislation which allowed freedom of choice for consumers and did not restrict innovation. The only restriction that should be put on new products was that they should not be injurious to human health and should be accurately labelled.

22. The Observer of the EEC stated that the Community was promoting a liberal approach rather than the detail given in Standard A-16, and expected its legislation to cover horizontal criteria, such as labelling, health aspects, additives, etc. A product complying with these general rules could be sold in all other Member States if it was legally produced in the exporting state.

23. Several delegations addressed the problem of nomenclature, and the following suggestions were made: "dairy spread", "low-fat butter", "light butter", "calorie- reduced butter", "milkfat spread". The products so named would not necessarily be of 39-41% fat content and the range of permitted fat contents varied from country to country. The Delegation of Switzerland attached importance to products referring to "butter" being free from additives. Some delegations opposed the use of the word "butter" in the designation of such products.

24. The Committee discussed how to proceed further and accepted the Chairman's proposals to seek government comments on a number of questions in relation to draft Standard A-16 at Step 5 and to simultaneously take the necessary steps to consider a

Standard of broader scope, covering products of differing fat contents and probably products containing mixtures of fats.

#### Further development of Standard

25. The Committee decided that all issues on which government comments were sought should be presented in square brackets [] in a revised text, which should be appended to the report. This would include the issues raised in written comments submitted on the text in Appendix XIV to CX 5/70-21st Session. The following issues were agreed to for such treatment:

Title: the term 'low fat' and 'dairy' and an alternative name 'half-fat butter'.

- 2.1 Product definition: the fat content limits of 39 and 41%.
- 3.1.4 Water content: the maximum limit.
- 3.1.5 Edible milk protein: The ingredient itself (skimmed milk powder and whey powder should be permitted) and the minimum limit.
- 3.2.4 Natural starches: Modified starches could also be allowed.
- 4.2.1 Natural butter flavours, etc.: Other natural flavours could also be allowed.
- 4.6 pH correcting agents: Other agents (e.g. glucono-delta-lactone) could be allowed.

In the course of discussion of Agenda Item 17 (b) - Report of IDF/ISO/AOAC concerning Standard Methods of Analysis - the Committee also agreed to delete the provision for arsenic as a contaminant.

#### Standard of broader scope

26. The Chairman reminded delegates that the Milk Committee would be required to consult more widely when proposing to establish standards for products other than those of dairy origin. He proposed that the Committee request IDF to elaborate a broader-scope standard, for fat spreads as a whole in consultation with the Secretariat of the Codex Committee on Fats and Oils (CCFO) and with an organization representative of world interests in margarine. The Milk Committee should also inform the Codex Alimentarius Commission, in view of the sine die adjournment status of CCFO, of the desire of the delegations of the Milk Committee to include this item on the agenda of its next meeting. Pending the endorsement of this proposal by the CAC, the Committee agreed that governments views on this issue should be sought.

#### Status of the Standard

27. The draft standard A-16 (Appendix III) was advanced to Step 5.

#### **AMENDMENTS OF STANDARDS - CONSIDERATION OF GOVERNMENT COMMENTS ON: GENERAL STANDARD NO. A-6 FOR CHEESE (Agenda Item 6 a))**

28. The Committee had before it documents MDS 90/6 (a) and MDS 90/Misc. 1 when discussing this Agenda Item, which summarized government comments submitted in regard to Standard A-6 (Appendix II, CX 5/70-19th Session). The Chairman reminded the Committee that there were two main issues at hand as a result of the IDF proposals put before the Committee at its 21st Session:

- i) Section 1: Deletion of the sentence: "the standard does not apply to whey cheese" appearing in "Scope", as proposed by IDF;
- ii) Section 2B: Addition or deletion of the words in square brackets: "by processing techniques involving coagulation of milk and/or materials obtained from milk [provided that the whey protein/casein ratio does not exceed that of milk, and]"

which give an end product which has similar physical, chemical and organoleptic characteristics as the product defined under a)".

29. Regarding i) above, the Committee agreed to delete the sentence: "The standard does not apply to whey cheese." Regarding ii), a majority of delegations supported the deletion of the square brackets. The Delegation of France pointed out however that in practice, the whey protein/casein ratio was difficult to determine for control purposes.

30. The Delegation of Spain pointed out that by using whey cream, solely or in combination with milk, partially skimmed milk or wholly skimmed milk and using further "suitable coagulating agents", a large range of products may become available with a whey protein/casein ratio higher than that of milk. Therefore, to be consistent with the intention to exclude such products from the definition, the most suitable approach would be to transfer the sentence between square brackets to the first sentence in the definition which should then read:

"Cheese is the fresh or matured solid or semi-solid product in which the whey protein/casein ratio does not exceed that of milk, obtained ..." (rest of para. 2 unchanged, deleting the square brackets and the sentence between square brackets).

31. The Committee adopted the wording proposed by the Delegation of Spain. The Chairman made it clear that this revised definition would apply to international individual cheese standards and that more specific provisions in individual standards would also apply.

32. The Chairman asked the Committee whether it considered that a standard of identity should be developed for whey protein cheeses. There was no support for the proposal. The observer of IDF mentioned that the Federation had initiated work in this field.

### **STANDARDS NO. A-3 AND A-4 FOR EVAPORATED AND CONDENSED MILK** **(Agenda Item 6 (b))**

33. The Chairman introduced the revised Standards A-3 for Evaporated Milk, Evaporated Skimmed Milk, Evaporated Partly Skimmed Milk and Evaporated High-Fat Milk and A-4 for Sweetened Condensed Milk, Sweetened Condensed Skimmed Milk, Sweetened Condensed Partly Skimmed Milk and Sweetened Condensed High-Fat Milk as set out in Appendices X and XI of the report of the 21st Session. The Delegation of Switzerland requested the elimination of the three newly introduced products in each group, but this was rejected by the Committee.

34. There was a lengthy discussion on the need for consistency in nomenclature and on the justification of minimum milk solids non-fat levels. These were originally introduced because there was an economic incentive for reducing fat levels, but this was not always true due to changes in the relative prices of fat and solids not fat. The following countries participated: U.S., Canada, Denmark, Germany, Netherlands, Spain, Switzerland, France, India, and the EEC. There was agreement by the Committee to change A-3 Section 2.1.2 and A-4 Section 2.1.2 from a minimum milk solids not fat content of 17.5% and 20.0% to a minimum of 25% and 28% total milk solids, respectively. However, the Delegations of India and Germany did not agree with this change.

35. The Committee agreed to forward the recommended standard for acceptance by governments at Step 7 (see Appendix IV and V). The Delegation of Switzerland did not

support moving the Standard to Step 7 and suggested further government comment at Step 5.

### **ENZYME PREPARATIONS IN CHEESE MANUFACTURE (Agenda Item 7 (a))**

36. The IDF, based on a survey carried out in 1988, prepared a list of enzymes used in cheese making and classified them into those used for i) milk clotting; flavour and texture development; ii) flavour enhancement; iii) accelerated ripening; iv) prevention of butyric acid fermentation and v) destruction of hydrogen peroxide added to bleach cheese milk. This list, along with specifications for enzymes used in cheese production, was contained in Table 1 and para. 5, respectively of document MDS 90/7 (a), which was before the Committee for discussion.

37. The Committee noted that the enzyme use levels were limited by Good Manufacturing Practice and that the enzymes listed contained chymosin and other enzymes, which are produced by bio-engineering processes. The Committee agreed that the list of enzymes contained in Table I as well as the specifications (para. 5) be referred to the CCFAC for endorsement.

38. The Delegation of France informed the Committee that its country had a much shorter list and expressed reservations concerning the Committee's decision to refer the IDF list to the CCFAC for endorsement.

### **USE OF LYSOZYME AND NATAMYCIN IN CHEESES (Agenda Item 7 (b))**

#### **Lysozyme:**

39. The Committee agreed that the use of lysozyme in making certain varieties of cheese was technologically justified and agreed to forward the IDF statement on "The Use of Lysozyme in the Prevention of Late Blowing in Cheese", as contained in Annex III of CL 1988/21-MDS, to the CCFAC for endorsement of the use of lysozyme in cheese. The use level of lysozyme is limited by Good Manufacturing Practice.

40. The Delegations of France, Spain and Italy informed the Committee that the national legislation in their countries on the use of lysozymes in cheese making had changed since its submission of comments to IDF and agreed to make the current legal situation known to the Secretariat.

#### **Natamycin:**

41. The Committee recalled its discussions on Natamycin at its 21st Session, at which it agreed on the use of a maximum level of 2 mg natamycin per square dm with a maximum penetration of 5 mm into the cheese.

42. The Committee had agreed, with the concurrence of the interested countries, that a provision for natamycin be included in cheese standards, C-13 (Saint Paulin), C-14 (Svecia), C-21 (Herrgardost), C-22 (Hushallsost) and C-23 (Norvegia). The Committee noted that these provisions would be forwarded to the CCFAC for endorsement.

### **CONSIDERATION OF ANNATTO, ERYTHROSINE AND KARAYA GUM (Agenda Item 7 (c))**

#### **Annatto**

43. Since the acceptable daily intake of annatto has been expressed in terms of bixin and norbixin, the CCFAC asked the Milk Committee to express the maximum levels of annatto in cheese in like terms. On the basis of replies received from governments in

response to a questionnaire, the IDF made the following proposals for the maximum levels for the use of bixin/norbixin:

- Cheddar cheese - 25 mg norbixin/kg of cheese<sup>1</sup>
- Other cheeses (where relevant) - 10 mg norbixin/kg of cheese
- Butter - 20 mg bixin/kg of butter

<sup>1</sup> While most Cheddar is made with less than 10 mg/kg, a small amount of coloured cheddar is made, requiring up to 25 mg/kg.

44. The Delegation of France informed the Committee that the norbixin content in the Mimolette cheese was 25 mg/kg and proposed that it be included in the IDF proposal. The Committee was informed that an international individual cheese standard for Mimolette did not exist, and that in such a case the provision of a standard for a similar type of cheese (cheddar) is applicable.

45. The Committee agreed to refer the IDF proposal on the maximum levels for the use of bixin/norbixin to CCFAC for endorsement. The Delegations of Italy, Spain and Switzerland informed the Committee that both for safety reasons and lack of technological justification, they had reservations about the use of Annatto in cheese.

46. The Delegation of India informed the Committee that castor oil is normally used for the extraction of annatto and expressed the view that only edible vegetable oils and milk fat should be used. The Committee referred this question to IDF.

#### Erythrosine

47. Because of the low ADI (0.1 mg/kg Body wt) of erythrosine, the Committee noted that the present provision for a maximum level of 27 mg/kg erythrosine (Carry over from flavouring substances) in Flavoured Yoghurt may result in an intake of erythrosine that would exceed the ADI, and agreed to delete the provision for erythrosine from the Standard on Flavoured Yoghurt (A-11b).

#### Karaya Gum

48. The Committee noted that JECFA at its 33rd meeting allocated an ADI, "not specified" for Karaya gum in place of the previous numerical ADI of 0.20 mg (temp) on the basis of new information available to it and agreed to revise the existing maximum level of Karaya gum to a maximum level that is limited by GMP in the standards for (i) Cottage Cheese (ii) Processed Cheese Preparations (iii) Cream Cheese (iv) Flavoured Yoghurt and products heat-treated after fermentation. The Committee agreed that this should be brought to the attention of CCFAC.

#### **LEVEL OF ANTIOXIDANT PROVISIONS IN STANDARD A-2 MILK FAT PRODUCTS: (Agenda Item 7 (d))**

49. The IDF proposed amended antioxidant provisions for Standard A-2 Milk Fat Products to bring them into line with those contained in the Codex Standards for Oils and Fats. Comments were invited from governments on the IDF proposal by CL 1989/24 - MDS. The Delegation of India informed the Committee that it cannot accept inclusion of BHT as an antioxidant.

50. The Committee, while noting the support from the majority of the Governments commenting, agreed to refer the IDF proposal to CCFAC for endorsement.

51. The Delegation of Germany proposed the inclusion of Phosphatides and Lecithins in the antioxidant provisions, but this did not receive the Committee's approval.

**CLASSIFICATION OF PERMITTED ADDITIONS IN MILK PRODUCT STANDARDS AS FOOD ADDITIVES OR PROCESSING AIDS (Agenda Item 7 (e))**

52. The Codex Alimentarius Commission had adopted a General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985) and the IDF was requested by the Milk Committee to review the labelling sections in the Standards of Identity for Milk Products in order to align these with the General Standard. A particular issue needing further discussion was whether certain permitted additions could be classified as food additives or processing aids.

53. The Committee considered the IDF statement on the subject contained in CL 1990/14-MDS.

54. The Delegation of Spain proposed that Melting Salts should be dealt with as a separate category of additives that would need declaration under the class title "melting salts". This was not agreed to by the Committee since in its view, melting salts came into the class "Emulsifiers".

55. The Delegation of Italy expressed the view that lysozyme used in cheese manufacture is a processing aid and proposed that section 2.3 of the IDF statement be amended. This was not agreed to by the Committee since in its view, lysozyme exerts a preservative action in cheese and is a food additive.

56. The Delegation of the UK brought the to attention of the Committee that calcium chloride was used as an addition to cheese and proposed its inclusion in Section 2.4. This was agreed to by the Committee.

57. The Committee noted that delta glucono lactone, carbon dioxide and food grade mineral acids were indeed food additives and would need to be declared. The Committee was, however, of the view that they could sometimes be considered as processing aids depending on their use. It agreed to delete section 2.6 from the IDF statement.

58. The Committee agreed to forward the amended IDF statement (Appendix VI) to CCFAC for its consideration.

**CALCIUM HYDROGEN CARBONATE (Agenda Item 7 (f))**

59. The Committee noted that calcium hydrogen carbonate is not used in evaporated milks, sweetened condensed milks, milk powders, cream and cream powder and agreed that this information should be brought to the attention of CCFAC.

**CONSIDERATION OF CODEX COMMITTEE ON FOOD LABELLING (CCFL) ENDORSEMENTS OF LABELLING SECTIONS IN MILK PRODUCT STANDARDS (Agenda Item 8)**

60. The Committee considered document MDS 90/8 when discussing this Agenda Item, which presented a background summary of the subject. The Committee noted that the proposed labelling revisions (MDS 86/8 - Rev. 1) were circulated for government comments under CL 1986/65-Milk by its 21st Session. The comments submitted were taken into account by the 2nd Session of the Ad Hoc Steering Group of the Milk Committee, which finalized the labelling sections for forwarding and endorsement by the 20th CCFL.

61. The Committee noted that the 20th CCFL had endorsed the provisions as presented in document CX/FL 89/5 - Add. 1 (para. 57, ALINORM 89/22). This endorsement was made with the understanding that the labelling provisions would be

amended in compliance with revised procedures adopted by the Codex Alimentarius Commission which concern the endorsement functions of CCFL (paras. 265-268, ALINORM 89/40).

62. The Committee agreed that the labelling provisions be revised in conformity with new CCFL procedures. The Committee also decided that the revised endorsement procedures adopted by the CAC concerning labelling would be taken into account by the Secretariat when the standards were published in the Revised Codex Alimentarius (Volume XII). It was decided that the Secretariat, when revising the labelling provisions for these standards, would also take into account written comments concerning translation difficulties.

### **MISUSE OF DESIGNATIONS FOR MILK PRODUCTS (Agenda Item 9)**

63. The Committee had before it the working documents MDS 90/9, MDS 90/9 - Addendum and CL 1989/24 MDS when discussing this item.

64. The IDF Guidelines for the Designation and Presentation of Substitute Products (attachment 2, CL 1989/24-MDS) were introduced by the observer of the IDF as being intended to interpret the existing Milk Code rules in relation to substitute products to prevent abuse and misleading the consumer. They were in conformity with current rules as laid down in Article 4 of the Code in conjunction with its "Decision No 6". According to this decision the name of a product standardized under the Code should not be used as part of the name of a substitute product.

65. The Delegations of France, Spain and Mexico were of the opinion that sections 3.1 and 3.2 (iii) of the Guidelines might lead to confusion between the labelling of a milk product and a substitute product.

66. The Delegation of France had proposed a modification to 4.2(b) of the Code which in its view would give greater protection to the designation of milk and milk products. However, it was clear from discussions at the 21st Session that the Committee was not in favour of this approach. It would be more appropriate to include any such provision in the Guidelines; such principles were given in section 3.1 with examples in 3.2. The Delegation of France considered that 3.2 (iii) needed modification so that the description of the true nature of the raw materials used should not be given as part of the product designation. The Delegation of Spain agreed with this view. The Observer from the IDF pointed out this was not in conformity with the general Codex rules on product labelling which included an option to give as a designation a coined or fanciful name, provided it was not misleading, and was accompanied by an appropriate description of the raw materials used. This was the basis of section 3.2 (iii) of the IDF Guidelines, The Committee agreed not to amend 3.2 (iii) of the Guidelines. France and Spain expressed their reservations on this decision.

67. The Delegation of Spain proposed a clarification to section 3.3 to insert after "food and drinks" the phrase "which contains neither milk nor milk products". This was accepted by the Committee.

68. The Committee agreed to submit the amended Guidelines (Appendix VII) to the Executive Committee and the Codex Alimentarius Commission for information.

### **DRAFT GUIDELINES FOR THE PRESERVATION OF RAW MILK BY USE OF THE LACTOPEROXIDASE SYSTEM (Agenda Item 10 (a))**

69. The Committee had before it documents MDS 90/10 (a), MDS 90/10 (a) - Addendum and MDS 90/10 (a) - Addendum 2 when discussing this agenda item, which

summarized government comments submitted on the draft guidelines (Appendix I, CX/MDS 90/10). The Committee recalled the background of the guidelines elaboration (CX/MDS 90/10), and noted that they were developed by the IDF at the request of the Committee at its 21st Session. The 23rd Session of the Codex Committee on Food Hygiene (CCFH) considered the guidelines and agreed to solicit comments at Step 3. The 35th Session of the Executive Committee (CCEXEC), the 3rd Session of the Milk Committee Steering Group and the 18th Session of the Commission all agreed with this procedure. The Committee also noted that the guidelines were evaluated by the 35th Session of the Joint FAO/WHO Expert Committee on Food Additives.

70. The 24th CCFH Session, while agreeing that the guidelines were not acceptable for products intended for international trade or for other than non-refrigerated milk, decided to advance the guidelines to Step 5, with a recommendation to eliminate Steps 6 and 7 of the Codex Procedure to allow for their adoption by the Commission (July 1991) at Step 8.

71. The Committee noted previous discussions concerning the title of the guidelines, whereby the CCFH decided to remove "where refrigeration is virtually impossible", as this parameter was felt to be reflected more accurately in the Scope section. The Committee also noted that control of the lactoperoxidase system through the use of those methods cited in the guidelines was very expensive, and encouraged the evaluation of other less expensive tests.

72. The Committee agreed with the conclusions of the 24th CCFH, and endorsed the procedure to recommend the adoption of the guidelines at Step 8 of the Codex Procedure at the 19th Session of the Commission in July 1991. This procedure was endorsed with the understanding that the IDF would evaluate other less expensive methods of control of the system for possible inclusion in the guidelines at a future date. Switzerland drew attention to the fact that the lactoperoxidase system should in no circumstances be used as an easy means to avoid refrigeration.

#### **CODE OF HYGIENIC PRACTICE FOR UNCURED/UNRIPENED AND RIPENED SOFT CHEESES (Agenda Item 10 (b))**

73. The Committee set up a Working Group chaired by New Zealand to analyse the comments made on the draft Code and to amend the draft Code for submission to CCFH. Delegates from Canada, Denmark, France, Italy, Netherlands, Norway, Spain, Sweden, Switzerland, the United Kingdom and the United States of America and observers from EEC and IDF participated in the working group.

74. The Committee endorsed the report of the WG (Appendix VIII) with minor changes and agreed that it should be forwarded to CCFH for consideration at its next session.

75. The Committee asked IDF to develop an annex concerning ripened soft cheeses made from raw milk and submit it to the CCFH when ready. This annex will cover all aspects referred to under Item 9 of the Working Group Report.

76. The Committee thanked the Chairman, the Secretary and Members of the Working Group for its excellent work.

#### **DRAFT GROUP STANDARD FOR CHEESE IN BRINE (Agenda Item 11 (a))**

77. The Committee had before it documents MDS 90/11(a), MDS 90/11(a) addendum, and MDS 90/Misc. 3 which summarized government comments submitted in response to CL 1989/24-MDS.

78. After a brief introduction by the Chairman, the Committee considered the draft standard, point by point. The draft was approved with only minor changes. The Delegate of Switzerland proposed that the standard should be rearranged in conformity with the Codex format and this was accepted by the Committee. The Delegation of Sweden informed the Committee that Brilliant Blue and Patent Blue would not be acceptable to its government. The delegations of France and Poland expressed reservations regarding the stipulation of a 60 day minimum holding period.

#### Status of the Standard

79. The Committee advanced the Standard (Appendix IX) to Step 5.

#### **DRAFT INTERNATIONAL GROUP STANDARD FOR UNCURED/UNRIPENED CHEESES (Agenda Item 11 (b))**

80. The Committee had before it documents MDS 90/11 (b) and MDS 90/MISC 3, which summarized comments submitted in response to CL 1990/14 MDS.

81. The draft standard was reviewed point by point and the following modifications were proposed and agreed to:

- 3.2 Insert "milk" at the beginning of this section, as an allowable ingredient.
- 3.4 Delete the term vinegar and add lecithin.  
Delete 1-2 propylene glycol from the list of stabilizers.  
Delete capsantin, capsorubin, lycopenes, titanium dioxide and quinoline yellow from the list of colours.  
Delete the note in this section and delete propionic acid and its salts from the preservative list.
- 5.2.1 Heat treatment of milk. Unless the coagulum or finished product are pasteurized (see 5.2.2) the milk and milk ingredients shall be pasteurized, min 72°C for 15 seconds (or equivalent heat treatment for pasteurization). The Codex definition of pasteurization applies and higher time/temperature combinations may be necessary for fat enriched substrates.
- 5.4 Storage: Uncured/unripened cheese shall be kept refrigerated (less than 5°C) unless heat treated and aseptically packed after fermentation and coagulation.

It was pointed out by the Delegation of Switzerland that the format followed was not consistent with the Codex format and the Committee agreed that it should be revised accordingly.

82. There was a general consensus that the list of additives was too long and the Committee was informed that the additives would be further reviewed by the IDF Committee.

83. The Delegation of France wished to record its view that higher time/temperature combinations should not be mandatory for fat enriched substrates.

84. Following interventions by Spain and France, it was agreed by the Committee that specified deviations would be acceptable where national legislation required particular designations for certain classes of uncured/unripened cheese e.g. Fresh Cheese.

### Status of the Standard

85. The Committee agreed that the amended standard (Appendix X) should be circulated to governments at Step 5 for additional comments.

### **DRAFT INTERNATIONAL INDIVIDUAL STANDARD FOR FETA CHEESE (Agenda Item 12)**

86. The Committee had before it working documents MDS 90/12 and MDS 90/Misc. 3 when discussing this agenda item, which summarized government comments submitted in response to CL 1988/21-MDS.

87. The Chairman gave a brief account of the background to the Greek proposal contained in Annex 1 of CL 1988/21-MDS. The IDF observer also presented the advice of the organization on the proposal by Greece as summarized in document MDS 90/12. The Delegation of Greece, while noting their request and supporting data as summarized in document CL 1988/21-MDS, strongly supported the elaboration of an International Standard for Feta Cheese. Although the Greek proposal was strongly supported by Spain, France, Italy, India, Cyprus and other countries, the Committee decided to discontinue the elaboration of an International Standard for Feta Cheese at this time.

### **CODE OF GOOD MANUFACTURING PRACTICE FOR (INDIGENOUS) MILK PRODUCTS: CONSIDERATION OF GOVERNMENT PROPOSALS (Agenda Item 13)**

88. The Chairman introduced the subject, calling attention to MDS 90/13, MDS 90/13- Addendum and MDS 90/Misc.3, which summarized government comments.

89. The Delegation of India explained that the market for Shrikhand as described in the appendix to CL 1990/14 - MDS had recently expanded as a result of the action taken by the National Dairy Development Board to standardize some materials, and product and processing parameters in order to ensure a good quality and safe product for consumers. The observer of IDF mentioned that the Federation was currently revising a General Code of Hygienic Practice for the Dairy Industry with Appendices for specific products. An IDF Handbook on Milk Collection in Developing Countries was likely to be printed before the end of 1990. A practical Code of Hygienic Practice for fresh and pasteurized milk was under preparation in IDF.

90. The Committee noted these developments and encouraged Governments in developing countries to follow the example of India. In view of the initiatives undertaken by the IDF concerning this issue, the Committee agreed that further consideration of the subject would have to await the outcome of the IDF deliberations and initiatives from individual countries.

### **DEFINITION OF HEAT TREATMENT OF MILK AND MILK PRODUCTS: CONSIDERATION OF GOVERNMENT COMMENTS (Agenda Item 14)**

91. The observer of the IDF referred to the comments received from governments as summarized in MDS 90/14 and MDS 90/Misc. 1 with special reference to the comments from Germany and from the USA.

92. Following statements by the Delegations of the United States, Denmark and Iran, the Committee noted that a method based on lactulose determination currently developed by IDF appeared to be a promising method for distinguishing between UHT and conventional sterilized milk. The Committee decided that the designation "Aseptically Processed" should be mentioned as a footnote to the proposed designation

"Sterilized" as an accepted alternative to the latter designation according to provisions in national legislation.

93. The proposed definitions of Sterilization and the designations "Sterilized" and "UHT" as amended were approved at Step 8 of the Codex Procedure.

94. The Committee noted the United States suggestion to adopt also the term ultra-pasteurized but requested the IDF to develop a definition for ultrapasteurization, for a category of heat treated products with an extended shelf life under refrigerated conditions in cooperation with the United States, and bearing in mind the comments made by the Delegation of Denmark that "High-Pasteurized" was a term already in use in that country.

#### **DRAFT STANDARD FOR EDIBLE RENNET CASEIN (Agenda Item 15)**

95. The documents CX/MDS 90/15, MDS 90/Misc. 1, and Appendix XII to the Report of the 21st Session of the CCMDs were considered by the Committee. The Chairman outlined the background leading to the development of the draft standard (A-14).

96. The observer from the IDF pointed out that the draft standard predated the EEC standard and proposed the introduction of an additional third grade of product. The countries outside the EEC (United States and New Zealand) had no problem accepting the draft standard. The Delegation of New Zealand supported by the Delegations of Canada and Norway pointed out that as there was existing international trade in the product, the adoption of the more restrictive EEC standard was not justified and would not be supported.

97. It was agreed that governments would be asked to comment in particular on the inclusion of a third category when the revised standard, drafted in Codex format (Appendix XI), was circulated for comments at Step 5.

#### **DRAFT STANDARD FOR FOOD GRADE SWEET AND ACID WHEY POWDERS (Agenda Item 16)**

98. The Committee had before it documents CX/MDS 90/16 and MDS 90/Misc. 1, when discussing this Agenda Item. The Chairman outlined developments relating to these draft standards (A-15) and requested the Committee to narrow down the range in some of the parameters.

99. The Delegation of the United States referred to their written comments forwarded in particular compositional requirements. The Committee then considered the compositional specifications point by point and some values were amended as follows:

|                                 | <u>Sweet whey powder</u> | <u>Acid whey powder</u> |
|---------------------------------|--------------------------|-------------------------|
| Minimum levels of lactose were  | 61.0%                    | 61.0%                   |
| Maximum levels of protein were  | 11.0%                    | 10.0%                   |
| Maximum levels of fat were      | 2.0%                     | 2.0%                    |
| Maximum levels of moisture were | 5.0%                     | 4.5%                    |
| Maximum levels of ash were      | 9.5%                     | 15.0%                   |
| pH                              | 6.5% (mm)                | 5.1% (max)              |

100. The draft standard applies to food grade whey powders derived from cows' milk but it was agreed to include also goats', sheep's and buffaloes' milk. Where milk other than cows' milk is used for the manufacture of the product, a word or words denoting the animal from which the milk has been obtained shall be inserted immediately before or after the designation of the product, and where milk from more than one species of animal is blended, the milk from the different species shall be declared in descending

order of proportion. Such declaration is not required if the consumer would not be misled by the omission.

101. The Delegation of Mexico suggested that processing aids included in Section 4: Food Additives and fluidizing agents included in section 4.4 should be specified.

102. The Committee agreed that the standard should be redrafted in the Codex format (Appendix XII) and circulated to governments for comments at Step 5.

#### **CONSIDERATION OF AMENDED PROCEDURES FOR THE ELABORATION OF METHODS OF ANALYSIS AND SAMPLING (Agenda Item 17 a)**

103. The Committee noted that the 2nd Meeting of the Ad Hoc Steering Group of the Milk Committee (9-10 May 1988) was informed by the Secretariat that FAO/WHO was no longer in a position to publish all methods of analysis and sampling elaborated by ISO/AOAC/IDF due to budgetary constraints.

104. As a result of these discussions, the present procedure (Codex Alimentarius, Volume XVI, Part IV, Page 5) was amended by the Secretariat to no longer include the publication of Methods of Analysis and Sampling by FAO/WHO. The amended procedure, which the Committee noted followed accepted procedures established by other Codex Committees, would constitute considerable financial savings for the Programme.

105. Comments concerning the amended procedures were solicited in circular letters CL 1988/21-MDS and 1989/24-MDS. Comments were summarized for the Committee in document MDS 90/17(a).

106. In view of the favourable oral and written comments concerning the proposed amendment, the Committee adopted the revised Procedure for the Elaboration of Methods of Analysis and Sampling, which is attached to this report as Appendix XIII. The Committee noted that this procedure will continue to allow for FAO/WHO standards for milk products to include references to the Methods of Analysis and Sampling agreed to by the IDF, ISO and AOAC.

#### **CONSIDERATION OF METHODS OF ANALYSIS AND SAMPLING FOR MILK PRODUCTS SUBMITTED BY THE IDF/ISO/AOAC (Agenda Item 17 b)**

107. The Observer of the AOAC presented the report (MDS 90/17 (b) - CRD 3) of the Tripartite IDF/ISO/AOAC Group on Methods of Analysis and Sampling, which included a discussion of general matters, those items requiring clarification by the Committee, and a list of methods of analysis at various stages of the amended elaboration procedures (see previous Agenda Item).

108. In particular, the Committee agreed with the tripartite group that a method for determination of arsenic in the standard for low-fat dairy spreads (Standard A-16) was unnecessary, and consequently deleted the provision for arsenic from that standard (see Appendix III). The Committee agreed that there was no need for a method to determine caseinates in creams (Standard A-9). The Committee also concluded that methods related to the provision for the determination of sugar in the Codex Standards for Creams (Standard A-9), Yoghurt and Sweetened Yoghurt (Standard A-11(a)) and Flavoured Yoghurt (Standard A-11(b)) should focus on sucrose.

109. The Committee concluded and agreed to adopt the Methods of Analysis and Sampling for Milk Products at various stages of the amended procedures (h, g, d, and f), and as presented in CRD 3. The Committee also agreed, for ease of cross reference in

codes of principles of standards of identity, to retain the B series of references for all methods that it had adopted.

110. The report of the Tripartite Group, as well as the table of adopted methods of analysis, are attached to this report as Appendix XIV.

### **HEALTH RELATED ASPECTS (Agenda Item 18)**

111. The Committee had before it MDS 90/18 and conference room documents 1 and 2 which summarized aspects of interest to the Committee related to health.

#### **Monograph of Residues and Contaminants in Milk and Milk Products:**

112. The Committee noted that a monograph on residues and contaminants in milk and milk products prepared by IDF will shortly be available. The contents of the monograph are contained in CRD 2.

#### **Pathogenic listeria:**

113. The Committee noted that IDF's expert group, D-14 Hygienic Requirements in Standards of Identity, expressed the view that pasteurization (71.7°C for 15 seconds or an equivalent heat treatment) can be considered to be a safe process with respect to *Listeria monocytogenes*.

#### **Aflatoxins in Milk:**

114. The Committee noted that CCFAC sought its advice on:

- (i) Practical levels of aflatoxin M<sub>1</sub> in milk;
- (ii) Relation of level of aflatoxin M<sub>1</sub> in milk to aflatoxin level in feed and
- (iii) Availability and sensitivity of analytical methods for determining aflatoxin M<sub>1</sub> in milk,

115. The Committee noted that an IDF statement prepared on the subject (Appendix XV) contained useful information and agreed to forward it to CCFAC for its consideration. The Delegation of Sweden suggested that the Committee should follow the advice from the Secretariat and proposed that a limit for Aflatoxin M<sub>1</sub> in milk be set and forwarded to CCFAC for further consideration. The Committee expressed the view that the aflatoxin M<sub>1</sub> level was dependent on the aflatoxin content in the feed and the quantity of feed consumed by the cow and that the best way to limit aflatoxin M<sub>1</sub> in milk was to limit aflatoxin in the feed. The Delegations of Denmark and Switzerland informed the Committee that in their countries, very low levels (< 10 ng/kg) of aflatoxin M<sub>1</sub> in milk could be achieved by imposing severe restriction for the aflatoxin levels in the feed and also by prohibiting the use of groundnut cake in the feed. The Committee noted that national legislation in France had set limits of 50 ng/kg and 30 ng/kg for aflatoxin M<sub>1</sub> in milk meant for consumption by adults and infants respectively.

#### **Radionuclides in Milk and Milk Products:**

116. The Committee noted that Codex Guideline levels for Radionuclides in milk and infant foods remain applicable only for one year following a nuclear accident and expressed concern on the non-availability of such guideline levels which can be applied on a more permanent basis. The Delegation of New Zealand expressed a reservation concerning how the guidelines might apply to countries which have never had significant radionuclide contamination.

117. The Delegation of India expressed its deep concern that there were no routine Codex Standards for radionuclides in Milk and Milk Products and stressed that these standards be formulated expeditiously. This was supported by the Delegations of Iran, Egypt, Saudi Arabia, Nigeria and Norway.

118. The Committee recommended that FAO, WHO and Codex should give the highest consideration to dealing with the contamination of milk and milk products with radionuclides.

#### Limits for Dioxins in Paper Board Milk Cartons:

119. The Committee noted that CCFAC may consider setting limits for dioxins in paper board milk cartons in order to obtain a non-detectable residue level in milk (ALINORM 91/12, para 174). The Committee heard a statement from IDF on dioxins in paper pulp used for milk board (Appendix XVI) and agreed that it contained useful information and should be forwarded to CCFAC for information. It however expressed the view that there was a need for the establishment of guideline levels for dioxins in paper pulp used for milk board, which would prove useful to those countries which still continued to use chlorine for bleaching of paper pulp. The Committee expressed the view that it was very essential to address the question of environmental pollution as a whole to limit dioxin content in milk.

#### **FUTURE WORK AND OTHER BUSINESS (Agenda Item 19)**

120. The Committee had before it documents MDS 90/19 and MDS 90/Misc. 2 when discussing this Agenda Item, which summarized possible subjects for future consideration by the Committee. The Committee also agreed to discuss any other outstanding business for its next session.

#### **Other Business**

121. At the suggestion of the Delegation of Norway, the Committee agreed to solicit government comments on the following proposed change to Section 2.A of the General Standard for Cheese (A-6), as the proposed amendment was technical, as opposed to editorial, in nature. Introduce: "wholly or partly the following raw materials:" after coagulating in the first line.

122. The Committee also strongly supported the submission of data and information to JECFA in order to allow for the timely and thorough evaluation of paraffin wax.

#### **Future Work**

123. The Committee agreed to consider the following items in its future programme of work, which included those subjects suggested by the Steering Group in document MDS 90/19:

- Code of Hygienic Practice and a Group Standard for Uncured/Unripened and Ripened Soft Cheeses;
- Group Standard for Cheese in Brine;
- Standards for Low Fat Dairy Spreads, Edible Rennet Casein, Food Grade Sweet and Acid Whey Powders, and Fermented Milks;
- Revision of Standard A-6;
- Code of Good Manufacturing Practice for (Indigenous) Milk Products;
- Definition of Heat Treatment of Milk and Milk Products;
- Standards for Fat-Reduced Milk Products, Whey Protein Concentrates, Yellow Fat Spreads, and Fractionated Butter and Milk Fat;

- Revisions of Existing Standards;
- Codes of Good Manufacturing Practice;
- Export Certificates.

#### **Date and Place of Next Session**

124. The Committee was informed that the date and place of the next session was to be decided upon at the 19th Session of the Codex Alimentarius Commission in July 1991 if, in its opinion, such a session was warranted. The Committee further noted that the next session of the CCMDS, if held, should not be scheduled until at least another four years hence, as decided at the 17th Session of the CAC (1987), and in any event, a session of the CCMDS could not be held in 1992/93 FAO biennium as the meeting had not been budgeted. It was also noted that the future of the Committee would be discussed at the FAO/WHO Conference on Food Standards, Chemicals in Food and Food Trade in March 1991.

125. The Committee agreed to await discussions held at the Conference and decisions made by the Commission before scheduling its next session, with the understanding that the Commission should be requested to strongly endorse the holding of a meeting in a minimum of four years time in view of the Committee's programme of work. It was also agreed that the Steering Group should continue to meet at yearly intervals under its established terms of reference if approved by the Commission.

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## Appendix II

### Current Situation Regarding Government Acceptances of the Code of Principles, the Associated Standards and Methods of Analysis and Sampling

| <u>Code of Principles</u>   | <u>Number of Acceptances</u>   |
|-----------------------------|--|
| Group I                     | 34   |
| Group II                    | 4  |
| Group III                   | 35   |
| <u>Redraft of Standard</u>  | <u>Accepted by*</u>  |
| A-1 for Butter              | 17 countries: Argentina*, Belgium*, Brazil*, Bulgaria*, Canada*, Denmark*, Egypt*, Finland, France*, F.R. of Germany*, Iran, Kenya, Netherlands*, New Zealand*, Norway*, Poland*, Philippines.             |
| A-2 for Butteroil           | 13 countries: Argentina*, Brazil*, Bulgaria*, Canada, Denmark*, Egypt*, France, Finland, Hungary, Netherlands*, New Zealand, Norway*, Philippines.   |
| A-3 for Evaporated Milk     | 17 countries: Argentina*, Belgium*, Brazil*, Canada*, Denmark*, Egypt*, Finland, F.R. of Germany*, Hungary, Iran, Kenya, Netherlands*, New Zealand*, Poland*, Philippines, Switzerland*, USA*.             |
| A-4 for Sweetened Condensed | 18 countries: Argentina*, Belgium*, Brazil*, Bulgaria*, Canada*, Denmark*, Egypt*, Finland*, F.R. of Germany*, Hungary, Iran, Kenya, Netherlands*, New Zealand*, Poland*, Philippines, Switzerland*, USA*. |
| A-5 for Milk Powder         | 15 countries: Argentina*, Belgium*, Brazil*, Bulgaria*, Denmark*, Egypt*, F.R. of Germany*, Iran, Kenya, Netherlands, New Zealand*, Poland*, Philippines, Switzerland*, USA*.                              |
| A-6 for Cheese              | 4 countries: Brazil*, Hungary, Philippines, Poland.  |
| A-7 for Whey Cheese         | 12 countries: Brazil*, Bulgaria*, Canada*, Denmark, Finland, F.R. of Germany*, Hungary, Iran, Netherlands*, New Zealand, Poland*, Philippines.   |
| A-8(a) for Named Variety    | 6 countries: Argentina*, Process(ed) Cheese and Brazil*, Canada, New Zealand*, Spreadable Process(ed) Cheese Poland*, Philippines.   |

A-8(b) for Process(ed) Cheese and Spreadable Process(ed) Cheese 5 countries: Brazil\*, Canada, New Zealand\*, Poland\*, Philippines.

A-8(c) for Processed Cheese Preparations, (Process(ed) Cheese and Spreadable Process(ed) Cheese Spread 5 countries: Brazil\*, Canada, New Zealand\*, Poland\*, Philippines.

#### New Standards

A-9 for Cream, 4 countries: Brazil\*, Egypt\*, Hungary\*, Philippines.

A-10 for Cream Powder 7 countries: Bulgaria\*, Denmark\*, France\*, Hungary, Iran, New Zealand\*.

A-11(a) for Yoghurt and 4 countries: Brazil\*, France\*, Sweetened Yoghurt, Iran, New Zealand\*.

A-11(b) for Flavoured Yoghurt 3 countries: F.R of Germany\*, New Zealand\*, Philippines.

A-12 for Edible Acid Casein 3 countries: Brazil\*, Hungary, New Zealand.

A-13 for Edible Caseinate 3 countries: Brazil\*, Hungary, New Zealand.

\* "country" means acceptance with reservations of various kinds.

#### Acceptance of Standard Methods of Sampling and Analysis

##### B-1 (1966) Milk & Milk Products - Sampling Methods.

Australia, Austria, Belgium, Burma, Canada, Democratic Kampuchea, Denmark, Ecuador, Egypt, Ethiopia, Fiji, Finland, France, Guatemala, Guyana, Hong Kong, Hungary, India, Iran, Ireland, Jamaica, Jordan, Kenya, Korea Rep. of, Kuwait, Luxembourg, Madagascar, Malaysia, Malta, Netherlands, New Zealand, Nigeria, Norway, Portugal, Saudi Arabia, Spain, Sri Lanka, Sweden, Switzerland, Syria, Tanzania, Thailand, Trinidad and Tobago, Tunisia, United Kingdom, United States of America, Vietnam, Zaire.

Total number of acceptances: 48

B-1 revised (at Step (h) see Report of the Committee's 20th Session, Appendix III and Paras 68 to 74).

Total number of acceptances: 1 - Brazil.

##### B-2 (1967) Dried Milk - Fat Content

Australia, Austria, Belgium, Brazil, Burma, Canada, Democratic Kampuchea, Denmark, Ecuador, Ethiopia, Fiji, Finland, France, Guatemala, Guyana, Hong Kong, Hungary, India, Iran, Ireland, Italy, Jordan, Kenya, Korea Rep. of, Kuwait, Luxembourg, Madagascar, Malaysia, Malta, Netherlands, New Zealand, Nigeria, Norway, Portugal, Saudi Arabia, Spain, Sweden, Switzerland, Syria, Tanzania, Thailand, Trinidad and Tobago, Tunisia, United Kingdom, United States of America, Vietnam, Zaire.

Total number of acceptances: 47

B-3 (1967) Cheese & Processed Cheese Products - Fat Content

Australia, Austria, Belgium, Brazil, Burma, Canada, Cuba, Democratic Kampuchea, Denmark, Ecuador, Ethiopia, Fiji, Finland, France, Guatemala, Guyana, Hong Kong, Hungary, India, Iran, Ireland, Italy, Jordan, Kenya, Korea Rep. of, Kuwait, Luxembourg, Madagascar, Malaysia, Malta, Netherlands, New Zealand, Nigeria, Norway, Portugal, Saudi Arabia, Spain, Sri Lanka, Sweden, Switzerland, Syria, Tanzania, Thailand, Trinidad and Tobago, United Kingdom, United States of America, Vietnam, Zaire.

Total number of acceptances: 48

B-4 (1967) Fat from Butter - Acid Value

Australia, Austria, Belgium, Brazil, Burma, Canada, Democratic Kampuchea, Denmark, Ecuador, Ethiopia, Fiji, Finland, France, Guatemala, Guyana, Hong Kong, Hungary, India, Iran, Ireland, Italy, Jordan, Kenya, Korea Rep. of, Kuwait, Luxembourg, Madagascar, Malaysia, Malta, Netherlands, New Zealand, Nigeria, Norway, Portugal, Saudi Arabia, Spain, Sri Lanka, Sweden, Switzerland, Syria Tanzania, Thailand, Trinidad and Tobago, United Kingdom, Vietnam, Zaire.

Total number of acceptances: 46

B-5 (1967) Fat from Butter - Refractive Index

Australia, Austria, Belgium, Brazil, Burma, Canada, Democratic Kampuchea, Denmark, Ecuador, Ethiopia, Fiji, Finland, France, Guatemala, Guyana, Hong Kong, Hungary, India, Iran, Ireland, Italy, Jordan, Kenya, Korea Rep. of, Kuwait, Luxembourg, Madagascar, Malaysia, Malta, Netherlands, New Zealand, Nigeria, Norway, Portugal, Saudi Arabia, Spain, Sri Lanka, Sweden, Switzerland, Syria, Tanzania, Thailand, Trinidad and Tobago, United Kingdom, United States of America, Vietnam, Zaire.

Total number of acceptances: 47

B-6 (1967) Milk - Fat Content

Australia, Belgium, Canada, Denmark, Federal Republic of Germany, Finland, France, Hungary, India Netherlands, Spain, Switzerland, Trinidad and Tobago, United Kingdom, USA.

Total number of acceptances: 16

B-6 revised (at Step (h) see Report of the Committee's 20th Session, Appendix III and paras 68 to 74).

Total number of acceptances: 1 Brazil

B-7 (1967) Evaporated Milk & Sweetened condensed Milks - Fat Content

Australia, Belgium, Brazil, Canada, Denmark, Federal Republic of Germany, Finland, France, Hungary, India, Netherlands, Norway, Spain, Sweden, Trinidad and Tobago, United Kingdom, USA.

Total number of acceptances: 17

B-8 (1967) Butter - Salt (Sodium Chloride) content

Australia, Belgium, Brazil, Canada, Denmark, Federal Republic of Germany, Finland, France, Hungary, India, Netherlands, Norway, Spain, Sweden, Switzerland, Trinidad and Tobago, United Kingdom, USA.

Total number of acceptances: 18

B-9 (1978) Butter - Water, Solids-not-fat and Fat content in the same test portion Brazil, Denmark, Philippines, Spain.

Total number of acceptances: 4

B-10 (1973) Whey Cheese - Fat Content

Brazil, Denmark, Finland, Federal Republic of Germany, Hungary, Iran, Norway, Philippines, Sweden, United Kingdom.

Total number of acceptances: 10

B-11 (1970) Whey Cheese - Dry Matter

Brazil, Denmark, Finland, France, Federal Republic of Germany, Hungary, Iran, Norway, Philippines, Sweden, United Kingdom.

Total number of acceptances: 11

B-12 (1972) Cheese & Processed Cheese Products - Phosphorus

Denmark, Finland, Federal Republic of Germany, Hungary, Iran, Netherlands, Norway, Philippines, Spain, Sweden.

Total number of acceptances: 10

B-12 revised (see Report of the Committee's 20th Session, Appendix III and paras 68 to 74)

Total number of acceptances: 1 Brazil

B-13 (1972) Cheese & Processed Cheese Products - Citric Acid

Brazil, Denmark, Finland, Federal Republic of Germany, Hungary, Iran, Netherlands, Norway, Philippines, Spain, Sweden.

Total number of acceptances: 11

B-14 (1972) Sweetened Condensed Milks - Sucrose (Polarimetric Method)

Brazil, Denmark, Finland, Federal Republic of Germany, Hungary, Iran, Netherlands, Norway, Philippines, Spain, Sweden.

Total number of acceptances: 11

B-15 (1973) Cream - Fat Content

Brazil, Denmark, Finland, Federal Republic of Germany, Hungary, Iran, Norway, Philippines, Sweden, United Kingdom.

Total number of acceptances: 10

B-16 (1978) Milk Fat - Vegetable Fat (Phytosteryl Method)

Brazil, Denmark, Hungary, Netherlands, Philippines, Sweden.

Total number of acceptances: 6

B-17 (1978) Milk Fat - Vegetable Fat (Gas-Liquid Chromatography of Sterols)

Brazil, Denmark, Hungary, Netherlands, Philippines, Sweden.

Total number of acceptances: 6

B-18 (1978) Cheese - Chloride Content

Brazil, Denmark, Hungary, Philippines, Poland, Sweden.

Total number of acceptances: 6

B-19 (1978) Cheese - Nitrate & Nitric Contents

Brazil, Denmark, Hungary, Philippines, Poland.

Total number of acceptances: 5

B-20 (1978) Anhydrous MilkFat - Peroxide Value

Brazil, Denmark, Hungary

Total number of acceptances: 3

B-21 Attribute Sampling Scheme (20th Rep. App. VI-A)

B-22 (1981) Caseins and Caseinates - Water

Brazil, Hungary, Poland

Total number of acceptances: 3

B-23 (1982) Rennet Casein and Caseinates - Ash

Brazil, Hungary, Poland

Total number of acceptances: 3

B-24 (1982) Caseins - Fixed Ash

Brazil, Hungary, Poland

Total number of acceptances: 3

B-25 (1982) Caseins and Caseinates - Protein

Brazil, Hungary, Poland

Total number of acceptances: 3

B-26 (1982) Caseins and Caseinates - Free Acidity

Brazil, Hungary, Poland

Total number of acceptances: 3

B-27 (1982) Milk & Milk Products - Lactose Content in the presence of other reducing substances

Brazil, Hungary

Total number of acceptances: 2

B-28 (1982) Dried Milk - Titratable Acidity

Brazil, Hungary, Poland

Total number of acceptances: 3

**Draft Standard A-16 for (low Fat) (Dairy) Spreads/ (Half-Fat Butter)**

1. SCOPE

This standard applies to any prepackaged products for direct consumption which complies with the provision of this standard.

2. DESCRIPTION

2.1 Product definition

Low fat dairy spreads is a food in the form of a spreadable emulsion, which is mainly of the type water/oil, containing water and fat, the latter being exclusively derived from milk, the fat content being not less than (39% m/m) and not more than (41% m/m).

2.2 Other definitions

2.2.1 Unless otherwise specified in the labelling, the milk fat must be derived from cow's milk.

2.2.2 Prepackaged means packaged or made up in advance, ready for retail sale in a container.

2.2.3 A lot is a quantity of food manufactured under essentially identical conditions, all packages of which should bear a marking that will allow the identification of the sources(s) of raw materials(s), conditions of manufacture and day of final packing.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Raw materials

3.1.1 Milk and/or milk products and/or water.

3.1.2 Milk fat subjected to only physical process of modification, excluding therefore the use of processing aids. Where fractionation is used, dry fractionation only is implied.

3.1.3 Fat content not less than 39% m/m and not more than 41% m/m.

3.1.4 Water content (not more than 48% m/m as determined by loss of mass on drying).

3.1.5 (Edible milk protein), (not less than 3.0%).

3.2 Optional ingredients

The following substances may be added:

3.2.1 Culture of harmless lactic acid producing bacteria.

3.2.2 Vitamins.

Maximum and minimum levels for vitamins should be laid down by national legislation.

3.2.3 Sodium chloride.

3.2.4 Sugars.

3.2.5 Gelatine.

3.2.6 (Natural) starches (modified starches).

#### 4. FOOD ADDITIVES

4.1 Colours maximum level

4.1.1 Beta-carotene 25 mg/kg

4.1.2 Annatto extracts 20 mg/kg (calculated as total bixin or norbixin)

4.2 Flavours

4.2.1 (Natural butter flavours and flavouring substances and nature-identical flavouring substances) as defined for the purpose of the Codex Alimentarius (see Codex Guide to the Safe Use of Food Additives (CAC/FAL 5-1979)) (Other natural flavours) | limited by GMP

4.3 Emulsifiers

4.3.1 Lecithins | limited by GMP

4.3.2 Mono and diglycerides of fatty acids limited by GMP | limited by GMP

4.4 Thickening agents

4.4.1 Pectin

4.4.2 Agar-agar

4.4.3 Carrageenan

4.4.4 Guargum

4.4.5 Locust bean gum

4.4.6 Xanthan gum (\*) | 10 mg/kg individually or in combination

4.4.7 Methyl cellulose

4.4.8 Carboxymethyl cellulose and its sodium salts

4.4.9 Sodium, potassium, calcium and ammonium alginates

4.4.10 Propylene glycol alginate

4.5 Preservatives

4.5.1 Sorbic acid and its sodium, potassium and calcium salts 2500 mg/kg

4.5.2 Benzoic acid and its sodium and potassium salts 1000 mg/kg

If used in combination, the combined use shall not exceed 2500 mg/kg of which the benzoic acid portion shall not exceed 1000 mg/kg.

(4.6 pH correcting agents (e.g. glucono-delta-lactone)

- 4.6.1 Lactic acid and their calcium, potassium Citric acid and sodium salts
- 4.6.3 Sodium hydrogen carbonate
- 4.6.4 Sodium carbonate
- 4.6.5 Sodium hydroxide
- 4.6.6 Sodium monophosphates (orthophosphates))

limited by GMP

## 5. CONTAMINANTS

- 5.1 Iron (Fe), maximum 1.5 mg/kg
- 5.2 Copper (Cu), maximum 0.1 mg/kg
- 5.3 Lead (Pb), maximum 0.1 mg/kg

## 6. HYGIENE

It is recommended that the product covered by the provisions of this standard be prepared in accordance with the appropriate sections of the General Principles of Food Hygiene recommended by the Codex Alimentarius Commission (Ref. No. CAC/RCP 1-1969). Reference is also made to the IDF General Code of Hygienic Practice for the production of Milk (A-Doc 63/1) and to the IDF General Code of Hygienic Practice for the Dairy Industry (IDF Document 178).

## 7. PACKAGING

Low fat dairy spreads when sold by retail, shall be prepackaged and may be sold in a pack of any shape.

## 8. LABELLING

(The labelling sections of all milk product standards are being amended in accordance with paragraphs 80 to 94 of the Report of the 21st Session of the Milk Committee. The new texts will be submitted to governments separately).

## 9. METHODS OF ANALYSIS (Subject to further consideration of IDF/ISO/AOAC)

- 9.1 Determination of milk fat content.
- 9.2 Determination of loss of mass on drying.
- 9.3 Determination of Vitamin A content.
- 9.4 Determination of Vitamin D content.
- 9.5 Determination of Vitamin E.
- 9.6 Determination of sodium chloride content.
- 9.7 Determination of iron.
- 9.8 Determination of cooper,
- 9.9 Determination of lead.
- 9.10 Determination of additives.

## 10. METHODS OF SAMPLING

IDF, ISO, Milk and Milk Products, Methods of Sampling.

**APPENDIX IV**

**REVISED STANDARD A-3 FOR EVAPORATED MILK, EVAPORATED SKIMMED MILK, EVAPORATED PARTLY SKIMMED MILK AND EVAPORATED HIGH-FAT MILK**

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1. DEFINITIONS

- 1.1 Evaporated milk is a liquid product, obtained by the partial removal of water only from milk.
- 1.2 Evaporated skimmed milk is a liquid product, obtained by the partial removal of water only from skimmed milk.
- 1.3 Evaporated partly skimmed milk is a liquid product, obtained by the partial removal of water only from partly skimmed milk.
- 1.4 Evaporated high-fat milk is a liquid product obtained by the partial removal of water only from cream enriched milk.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 Evaporated milk

- 2.1.1 Minimum milk fat content: 7.5% m/m
- 2.1.2 Minimum milk solids content: 20.0% m/m

2.3 Evaporated partly skimmed milk

- 2.3.1 Milk fat content: more than 1.0% and less than 7.5% m/m
- 2.3.2 Minimum milk solids not fat content: 17.5% m/m
- 2.3.3 Minimum milk solids content: 20.0% m/m

2.4 Evaporated high-fat milk

- 2.4.1 Minimum milk fat content: 15.0% m/m
- 2.4.2 Minimum milk solids not fat content: 11.5% m/m

3. FOOD ADDITIVES

| Stabilizers   | Maximum level   |
|---|---|
| 3.1 Sodium, potassium and calcium salts of:<br>hydrochloric acid<br>citric acid<br>carbonic acid<br>orthophosphoric acid<br>polyphosphoric acid | 2000 mg/kg singly<br>3000 mg/kg in<br>combination<br>expressed as anhydrous<br>substances |
| 3.2 Carrageenan   | 150 mg/kg   |

4. LABELLING

(The labelling sections of all milk product standards are being amended in accordance with paragraphs 80 to 94 of the Report of the 21st Session of the Milk Committee. The new texts will be submitted to governments separately).

5. METHODS OF SAMPLING AND ANALYSIS

- 5.1 Sampling: according to FAO/WHO Standard B-I, "Sampling Methods for Milk and Milk Products", paras. 2 and 4.
- 5.2 Determination of fat content: according to FAO/WHO Standard B-7, "Determination of the Fat Content of Evaporated Milks and of Sweetened Condensed Milks".
- 5.3 Determination of the total solid content of milk, cream and evaporated milk (provisional reference method) IDF Standard 21A 1982.

**APPENDIX V**

**REVISED STANDARD A-4 FOR SWEETENED CONDENSED MILK, SWEETENED  
CONDENSED SKIMMED MILK, SWEETENED CONDENSED PARTLY SKIMMED  
MILK AND SWEETENED CONDENSED HIGH-FAT MILK**

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1. DEFINITIONS

- 1.1 Sweetened condensed milk is a product obtained by the partial removal of water only from milk, with the addition of sugars.
- 1.2 Sweetened condensed skimmed milk is a product obtained by the partial removal of water only from skimmed milk, with the addition of sugars.
- 1.3 Sweetened condensed partly skimmed milk is a product obtained by the partial removal of water only from partly skimmed milk, with the addition of sugars.
- 1.4 Sweetened condensed high-fat milk is a product obtained by the partial removal of water only from cream enriched milk, with the addition of sugars.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 Sweetened condensed milk

- 2.1.1 Minimum milk fat content 8.0% m/m
- 2.1.2 Minimum milk solids 28.0% m/m

2.2 Sweetened condensed skimmed milk

- 2.2.1 Maximum milk fat content: 1.0% m/m
- 2.2.2 Minimum milk solids content: 24.0% m/m

2.3 Sweetened condensed partly skimmed milk

- 2.3.1 Milk fat content: more than 1.0% and less than 8.0% m/m
- 2.3.2 Minimum milk solids not fat content: 20.0% m/m
- 2.3.3 Minimum milk solids content: 24.0% m/m

2.4 Sweetened condensed high-fat milk

- 2.4.1 Minimum milk fat content: 16.0% m/m
- 2.4.2 Minimum milk solids not fat content: 14.0% m/m

2.5 Sugar content (note on)

The proportion of sugar which may be added to milk is restricted by Good Manufacturing Practice to a minimum value which safeguards the keeping quality of the product and a maximum value above which crystallisation of the sugar may occur. In the case of sucrose the quantity added should be such that  $(100 \times \% \text{ sucrose}) / (\% \text{ sucrose plus } \% \text{ water})$  is between 60.5% and 64.5%.

### 3. FOOD ADDITIVES

|     | Stabilizers   | Maximum level   |
|-----|---|---|
| 3.1 | Sodium, potassium and calcium salts of:<br>hydrochloric acid<br>citric acid<br>carbonic acid<br>orthophosphoric acid  | 2000 mg/kg singly<br>3000 mg/kg in<br>combination<br>expressed as anhydrous<br>substances |
| 3.2 | Carrageenan   | 150 mg/kg   |
| 4.  | <b>LABELLING</b><br><br>(The labelling sections of all milk product standards are being amended in accordance with paragraphs 80 to 94 of the Report of the 21st Session of Milk Committee. The new texts will be submitted to governments separately). |   |
| 5.  | <b>METHODS OF SAMPLING AND ANALYSIS</b>   |   |
| 5.1 | Sampling: according to FAO/WHO Standard B-1, "Sampling Methods for Milk and Milk Products", paragraphs 2 and 4.   |   |
| 5.2 | Determination of fat content: according to FAO/WHO Standard B-7, "Determination of the Fat Content of Evaporated Milks and of Sweetened Condensed Milk".  |   |
| 5.3 | Determination of sucrose content: according to FAO/WHO Standard B-14, "Polarimetric Determination of the Sucrose Content of Sweetened Condensed Milk".  |   |
| 5.4 | Determination of the total solids content of sweetened condensed milk (reference method) IDF Standard 15A 1982.   |   |

## Appendix VI

### IDF Statement on Classification of Permitted Additions in Milk Product Standards as Food Additives or Processing Aids

Following a survey among IDF member countries, the following proposals are submitted to the Milk Committee, for consideration and relay to the CCFL:

In all standards, the following categories of additives will normally need declaration when added directly to the product or when carried over in an amount sufficient to perform a technological function in the final product.

|                    |                          |
|--------------------|--------------------------|
| Acidity regulators | Stabilisers              |
| Anti-caking agents | Thickeners               |
| Antioxidants       | Flavours and flavourings |
| Colours            | Modified starch(es)      |
| Emulsifiers        | Foaming agents           |
| Flavour enhancers  | Gelling agents           |
| Preservatives      | Sweeteners               |

Microorganisms cultures essential to the manufacture of cheese, butter, sour or cultured cream, fermented milks and coagulating enzymes for cheeses, are to be considered as processing aids for labelling purposes and do not need declaration.

Other types of enzymes used in cheese manufacture are food additives and should be declared as ingredients.

Seasonal additions of specified salts to evaporated milks, cheese milk sweetened condensed milks and dried milks should be regarded as processing aids, subject to two conditions:

- a) the salts added are limited to those found naturally in milk;
- b) the total content of natural and added salts should never exceed the maximum natural level expected during the year.

Added salt (sodium chloride) needs to be declared.

**Guidelines for the Designation and Presentation of Substitutes  
for Milk and Milk Products**

**Introduction**

The attached "Guidelines for the designation and presentation of substitutes for milk and milk products" were adopted by IDF at its Annual Sessions in Budapest in 1988 by an overwhelming majority.

The purpose of the guidelines is to identify and to prevent misuse of designations reserved for milk and milk products and to achieve a proper labelling of substitute products, not only in relation to the designation of substitute products, but also with regard to:

- the list of ingredients;
- the description of the functionality of the product;
- the general presentation and
- advertisement and promotion.

As far as the designation of substitute products is concerned, the guidelines do not add new rules to those already existing under the Code of Principles concerning Milk and Milk Products. The significance of the guidelines is that they summarize the existing rules and indicate in clear terms how substitute products should be labelled.

Note - France made a reservation with regard to item 3.2 (iii) below and expressed the view that a description of the true nature of the principal raw materials should not be looked upon as a designation.

Spain objected any use of names reserved for milk and milk products for the designation of substitute products arguing that this approach is conflicting with the Code of Principles itself and therefore not acceptable.

1. **Purpose**

These guidelines are intended to:

- (i) identify and prevent misuse of designations reserved for milk and milk products as defined by the Code of Principles concerning Milk and Milk Products, elaborated by the FAO/WHO Committee of Government Experts (the Milk Committee);
- (ii) achieve proper labelling of substitutes for milk and milk products.

The guidelines as specified below were adopted by the IDF after its meeting in Budapest in 1988. They take into account the provisions on designations and descriptions of "Other Products" as defined in Article 4 of the Code of Principles, in conjunction with Decision No. 6 associated with the Code of Principles (Appendices 1 and 2). They also take into account the Milk Committee's interpretation of Article 4 and Decision No. 6 as recorded in the report of the Committee's 21st Session, 2-6 June 1986.

## 2. Definitions

Definition of substitute and imitation products:

A substitute product is a foodstuff whose intended use is to substitute for milk or for a product as defined and/or standardized under Articles 1, 2 and 3 of the Code.

An imitation product is a substitute for milk or for a milk product which in general composition, appearance, characteristics and intended use is similar to milk, or to a product as defined and/or standardized under Articles 1, 2 or 3 of the Code and in which the milk solids constituents are wholly or partly replaced with non-milk ingredient(s).

## 3. Designations

3.1 A substitute for milk or a milk product shall not be designated in any label, commercial document or publicity material by names reserved for milk and milk products as referred to in Articles 1, 2 and 3 of the Code of Principles or by names which are suggestive of milk and milk products or by any other dairy term, except that where milk or a milk product is used as an ingredient in a food the name of the dairy ingredient may be used only as part of a description of the true nature of the principal raw materials used. However, the "name of a Code product being substituted should not be used as part of the name of the substitute product".

3.2 Acceptable designations for substitute products are:

- (i) a distinct authorized name not being suggestive of a dairy product defined in the Code, e.g. Margarine, Minarine;
- (ii) any common name which does not have a dairy connotation, e.g. low fat spread, coffee whitener;
- (iii) a fancy name in combination with a description of the true nature of the principal raw materials used.

3.3 Names used traditionally and/or allowed in National Legislation for a significant time for some foods and drinks, which do not contain either milk or milk products, and which include names reserved under the Code, are acceptable provided the user clearly understands the true nature of the product, e.g. Coconut Milk, Creme de Menthe, Peanut Butter. Such names will be related to the specific requirements of an individual country.

3.4 Examples of unacceptable designations:

- |  |  |
|--|--|
| (i) Dairy spread<br>Butterine<br>Butter blend etc. | for a fat spread containing any proportion of non-milk fat |
| (ii) Coffee creamer<br>Imitation coffee cream      | for a coffee whitener containing non-milk fat              |
| (iii) Filled milk<br>Milk substitute etc.          | for a blend of skimmed milk and vegetable fat              |

(iv) Vegetable oil cheese  
Filled cheese  
Imitation cheese  
Cheese analogue  
Mozza melt

for a blend of casein and/or other  
proteins with non-milk fat

4. List of ingredients

Names reserved for Code products may be used in a list of ingredients when labelling substitute products, provided these names are not more prominent than those of any other ingredient.

5. Description of the use or functionality of the product

Such descriptions may refer directly to the nature and use of the product but should not make any reference to a milk or milk product, for example:

Allowed - use in tea, coffee or cooking

Disallowed - use instead of cream in tea, coffee or cooking

6. General presentation

The shape of any packaging or any wording or pictorial matter on it should not lead the user to believe that a substitute product is a milk or milk product as defined under the Code.

7. Advertising and promotion

Publicity material using either words or pictorial matter should not mislead the user to believe that a substitute product is a milk, milk product or composite product as defined by the Code. In particular the word "dairy" or any similar word or anything suggestive of a dairy image should not be used.

**Agenda Item 10(b)**

**JOINT FAO/WHO COMMITTEE OF GOVERNMENT EXPERTS  
ON THE CODE OF PRINCIPLES CONCERNING  
MILK AND MILK PRODUCTS  
Twenty Second Session  
Rome, 5-9 November 1990**

**REPORT OF WORKING GROUP ON THE DRAFT CODE OF HYGIENIC PRACTICE  
FOR UNCURED/UNRIPENED CHEESE AND RIPENED SOFT CHEESE**

**PARTICIPATION**

1. The following members participated in the Working Group's meeting in Rome on 6 and 7 November 1990.

|                          |                                      |
|--------------------------|--------------------------------------|
| Phil Fawcet, Chairman    | New Zealand                          |
| John Wakelin             | Canada                               |
| Christine Roegel         | Commission of the European Community |
| Bent Olsen               | Denmark                              |
| Catherine Bouvier        | France                               |
| Dominique Burel          | France                               |
| Edward Hopkin, Secretary | International Dairy Federation       |
| Bruna Bianchi-Salvadori  | Italy                                |
| Roberto Giangiacomo      | Italy                                |
| Joris Francken           | Netherlands                          |
| Hans van der Bas         | Netherlands                          |
| Jan Venneman             | Netherlands                          |
| Nora Mentzoni            | Norway                               |
| Beatriz Fernandez-Pello  | Spain                                |
| Gunilla Johansson        | Sweden                               |
| Peter Gilliéron          | Switzerland                          |
| Richard Burt             | United Kingdom                       |
| Lena Robinson            | United Kingdom                       |
| Johnnie Nichols          | United States                        |

**TERMS OF REFERENCE**

2. The terms of reference of the group were as follows:
- (a) to analyze the comments made on the draft Code of Hygienic Practice for Uncured/Unripened Cheese and Ripened Soft Cheese (CX/MDS 90/11);
  - (b) to formulate amendments to the text for submission to the Codex Committee on Food Hygiene;
  - (c) to attempt to resolve the questions of:
    - whether or not pasteurization of cheesemilk should be made mandatory;
    - whether or not different microbiological criteria should be elaborated for cheeses made from raw milk and from pasteurized milk.

These terms of reference were approved by the Group.

## **DOCUMENTATION**

3. The group considered the following documents:

|                          |  |
|--------------------------|--|
| CX/MDS 90/11 -           | Draft Code of Hygienic Practice for Uncured Unripened Cheese and Ripened Soft Cheese |
| MDS 90/10 (b) -          | Government comments on CX/MDS 90/11 (New Zealand and United States)                  |
| MDS 90/10 (b) Addendum - | Government comments on CX/MDS 90/11 (Denmark, Finland, France, Norway, Spain)        |
| MDS 90/10 (b) Add. 2 -   | Government comments on CX/MDS 90/11 (Switzerland)                                    |
| MDS 90/10 (b) Add. 3 -   | Government comments on CX/MDS 90/11 (United States)                                  |

## **DISCUSSION OF DOCUMENTS AND COMMENTS**

4. The Swiss Delegate said that a major problem with the Draft Code was that it was directed towards large-scale production of cheese whereas in Switzerland manufacture was mainly on a small scale. Some of the requirements represented an excessive demand on a small-scale establishment. The Italian Delegate supported this view. The US Delegate agreed that it would not be logical to impose different standards of public health in relation to the size of the establishment.

5. The French Delegate favoured separate codes for unripened cheeses and ripened soft cheeses. However the working group recognized that the Codex Committee on Food Hygiene had already ruled that a single code should be prepared.

6. The working group considered the document and comments in detail and formulated comments for submission to CCFH given in the Appendix.

## **PASTEURIZATION OF THE CHEESEMILK**

7. The Delegates present outlined their countries legislation with respect to the use of raw and pasteurized milk for the manufacture of the cheeses in question. Although the use of raw milk is forbidden in relatively few countries, industry rules or practices in the majority do not favour its use. At the same time, in those countries in which raw milk cheese is common, the quality of the raw milk used is the subject of stringent requirements.

8. The Delegates agreed that the milk used for making uncured/unripened cheese should be pasteurized, but the situation for ripened soft cheese is different. Cheeses of this kind have been made from raw milk and consumed for centuries before the introduction of pasteurization. They have a place on the market, subject to appropriate public health safeguards. The U.S.A. Delegate agreed with this view, but pointed out that countries remained free to prohibit the importation of such products into their own markets.

9. The working group agreed that raw milk ripened soft cheeses should be dealt with in a separate annex to the Code of Hygienic Practice. This annex should cover the following aspects:

- a) quality criteria for the raw milk used for making the cheese
- b) processing conditions
- c) microbiological end product specifications
- d) labelling requirements.

10. A new clause (7.4.4) was proposed in the Code to introduce this annex, as follows:

"7.4.4 Ripened soft cheese may be made from raw milk under conditions specified in the Annex. [To be developed]"

11. There was lengthy discussion concerning the role of the legislation of the importing country which was resolved by an appreciation of the advisory nature of the Code (first sentence of the Introduction).

12. The working group recommends that the Milk Committee request IDF to develop the annex concerning raw milk ripened soft cheeses and submit it to the Codex Committee on Food Hygiene when ready.

## **MICROBIOLOGICAL CRITERIA**

### Criteria for Raw and Pasteurized Milk Cheeses

13. After a thorough discussion the consensus of the working group was that the microbiological criteria for raw milk cheeses and pasteurized milk cheeses can be different except in relation to the content of pathogenic organisms which, being determined by considerations of public health, have to be identical. The group agreed that these criteria represented the final check that processing has been correctly carried out and noted that, in practice, the manufacturing procedures were such as to produce products that were well inside the limits demanded by requirements of public health.

### Microbiological end-product specifications (Clauses 9.1, 9.2 and 9.3)

14. The working group recommends that the Milk Committee request IDF to continue its examination of government comments and report back to the Codex Committee on Food Hygiene.

**DRAFT COMMENTS OF THE JOINT FAO/WHO COMMITTEE OF GOVERNMENT EXPERTS ON THE CODE OF PRINCIPLES CONCERNING MILK AND MILK PRODUCTS (THE "MILK COMMITTEE") ON THE DRAFT CODE OF HYGIENIC PRACTICE FOR UNCURED/UNRIPENED CHEESE AND RIPENED SOFT CHEESE**

Editorial comments

A number of minor points are notified separately, marked on a copy of the text. In the French text, however, it is necessary to substitute "devrait/devraient" for "doit/doivent" to reflect more accurately the English "should".

**TITLE AND SCOPE**

1. It seems appropriate to limit the scope of the code, and hence its title, to the manufacture of uncured/unripened cheese and ripened soft cheese. This requires addition of "the manufacture of uncured/unripened" to the title and deletion from the scope and throughout the document of references to transport and distribution.
2. It seems inappropriate to include a recommendation in the scope (as in paragraphs 2 and 3) but it is valuable to strengthen the references to HACCP principles. The second and third paragraphs should be modified to read as follows:

"It describes general hygiene and technological practices, including Hazard Analysis Critical Control Point (HACCP) principles to ensure safe and wholesome products (incorporating production, curing or ripening, processing, packaging and storage).

The HACCP principles to be used when applying this code to the specific manufacturing processes for uncured/unripened cheese and ripened soft cheese are explained in an appendix, together with an example."

**DEFINITIONS**

Pasteurization

3. Statements concerning the application of pasteurization to the types of cheese do not belong in definitions. It is proposed that the second sentence of 2.1 and the second sentence of 2.2 be eliminated. The matter is dealt with in 7.4.3 under the heading "Processing".
4. In 2.1 Uncured unripened cheeses the phrase "shortly after manufacture" is too vague. How "short" is "shortly"? The guidance of CCFH is sought as to how to express the concept.

Pasteurized Product

5. The definition of "pasteurized product" appears to be a relic from an earlier document. The Milk Committee proposes to follow the most recent decision of CCFH in relation to the definition of "pasteurization", eliminating "pasteurized product" and including the minimum temperature/time combinations for pasteurization adopted by the Codex Alimentarius Commission for the Code of Hygienic Practice for Dried Milk (CAC/RCP 31-1983), as follows:

| Minimum Temperature/Time Combinations for Pasteurization |                 |
|--|-----------------|
| Pasteurized milk and skimmed milk                        | 63°C for 30 min |
|  | 72 C for 15 s   |
| Pasteurized cream (18% fat)                              | 75°C for 15 s   |
|  | 80°C for 15 s   |
| Pasteurized concentrated milk                            | 80°C for 25 s   |

NOTE: The temperature/time combinations given are typical examples of many combinations of temperature and time having an equivalent and minimum bactericidal effect necessary for pasteurization. The combinations depend on such factors as the nature of the product, solid content, viscosity, etc. Temperature/time tables may be found in the following references: Enright, J.B., W. W. Sadler and R. C. Thomas: Thermal Inactivation of *Coxiella burnetii* in Milk Pasteurization. Pub. Hlth Service Pub. No, 517, US Supt Doc, Washington, DC, 1957; Enright, J.B.: The pasteurization of Cream, Chocolate Milk and Ice Cream Mixes containing the Organism of Q Fever. Journal of Milk and Food Technology Vol. 24, No. 11, Nov. 1961.

6. The Milk Committee considers that, in the case of the products in question, pasteurization should include cooling the milk to the processing (or setting) temperature immediately after heat treatment. Section 2.9.1 should therefore be amended to read: "Pasteurization is a heat treatment process followed by quick cooling to the processing temperature applied to a product...". Where heat treated milk is not used immediately for processing it should be cooled for storage, and this should be stated in 7.4.3 (Processing), as follows:

"Milk which has been heat treated should be used as soon as possible and precautions taken to avoid contamination after heat treatment."

7. The Milk Committee also considers that the phrase, of pasteurization, that "it reduces the number of harmful organisms to a level at which they do not constitute a significant health hazard" could be taken to imply that milk which has not been pasteurized always represents a significant health hazard. Accordingly, it proposed to amend the phrase to read as follows: "it reduces the number of any harmful micro organisms that might be present to a level...".

#### Phosphatase Test

8. Having eliminated "the definition of pasteurized product", the Milk Committee considers that note (b) to 2.9.2 should be retained, proposing to add it to 7.7.3 (v) as a note: 7.7.3 (v) should be amended to refer to the phosphatase test. The reference should also be corrected (4.0 micrograms of phenol, rather than 2.2 micrograms) and up-dated (new edition of IDF Standard B2), as follows:

"(v) Processing and manufacturing stages, including pasteurization by means of the phosphatase test\*

\*A negative phosphatase test is considered to be equivalent to less than 4.0 micrograms of phenol liberated by 1 ml of sample (IDF Standard 63: 1971) or less than 10 micrograms of para-nitrophenol liberated by 1 ml of sample (IDF Standard 82A: 1987)."

#### HYGIENIC REQUIREMENTS IN THE MILK PRODUCTION AREA

9. It is now proposed to deal with cheeses prepared from raw milk in an Annex. This is mentioned in a proposed new clause 7.4.4 and makes the second sentence of clause 3 redundant. ("For raw milk and milk products requirements see Section 7 of this Code").

## ESTABLISHMENT: DESIGN AND FACILITIES

10. The text should be aligned with the revised version of "General Principles of Food Hygiene" (ALINORM 85/13A, Appendix VI); hence in 4.1 add "preferably" in "Establishments should preferably be located..." and in 4.3.1 add a further sentence: "All construction materials should be such that they do not transmit any undesirable substances to the food."

### Cross -Contamination

11. In 4.3.5 examples should be given of operations for which cross-contamination is a danger, thus:

"...cross-contamination should be avoided, for example, starter propagation facilities, raw milk handling and curing,"

### Walls

12. In 4.3.7 Walls, a further sentence should be added as follows: "Walls should be strengthened where appropriate to avoid damage from handling and indoor transportation of foods, utensils and equipment."

### Ceilings

13. Milk or cheese in open vats or hoops may suffer direct contamination. Cheese is often manufactured under conditions that allow the product to be exposed to the environment for many hours when it may be contaminated by flaking paint or dripping condensate. The text should be modified to read as follows:

"Ceilings should be constructed of non-toxic, non-absorbent, non-flaking materials which are impervious to liquids and vapours. They should be designed to prevent the accumulation of dust and to minimize condensation and development of undesirable moulds and should be easy to clean."

14. The Milk Committee drew attention to the fact that the ripening facilities in some traditional manufacturing locations cannot be expected to satisfy the requirements for ceilings, for example, the caves of Roquefort. The following note is proposed at the end of 4.3.7:

"Note. These requirements need not apply to traditional ripening areas, provided that general conditions of hygiene are respected."

### Wood

15. The use of wood remains contentious, but is considered essential in the manufacture of some products. It is proposed to amend 4.3.11 to read as follows:

"The use of material which cannot be adequately cleaned and disinfected, such as wood, should be avoided wherever possible."

The same applies in 5.1, lines 4 and 5.

### Non-potable Water

16. The use of non-potable water in manufacturing areas is disliked but cannot be excluded completely. 4.4.1.2 should thus be left unchanged.

### Steam

17. The text would be improved by reading as follows:

"Steam used in direct contact with food or food contact surfaces should contain no foreign matter (including volatile boiler water compounds) which may contaminate the food."

#### Refrigeration

18. The Milk Committee proposes to insert a second sentence in 4.4.3 as follows:

"Condensation from refrigeration equipment should be piped directly to an enclosed drainage system."

The last sentence should constitute a separate paragraph.

#### Air

19. The text should give more emphasis to the principle of avoiding circulation of air from contaminated areas to clean areas. It does not apply in circumstances where there is no forced ventilation. The following wording is proposed for the second sentence:

"Circulation of air in areas which may be contaminated should be maintained separately from air circulated in areas where fresh or soft cheese is produced, ripened or cured, processed or packaged."

#### Effluent and Waste Disposal

20. Add a further sentence to 4.4.5, as follows:

"Sewer systems should be constructed to avoid reverse air flow into production areas."

#### Changing Facilities and Toilets

21. The requirement for mixing taps when hot and cold water are available (in 4.4.6) is considered onerous for a small establishment, but worth retaining to encourage washing the hands in warm water.

22. It is desirable to provide separate facilities to minimize cross-contamination. A further sentence is proposed as follows at the end of 4.4.6:

"Changing facilities and toilets for personnel employed on tasks presenting a risk of cross-contamination (for example, maintenance personnel, visitors, those handling raw milk and other raw materials) should be located separately from similar facilities for staff employed in processing areas."

23. It is also proposed to mention in 4.4.6 that drainage from hand-washing facilities should be piped directly to an enclosed drainage system.

24. The same proposal as 22 applies to 4.4.7.

#### Lighting

25. 220 lux is equivalent to 20 (not 30) foot candles.

#### Materials

26. In 4.5.1 the following additional sentence is proposed:

"Utensils, materials or mobile equipment should not be used in different sectors of the production plant owing to risks of cross-contamination. "

#### Thermometers and recording devices

27. In 4.5.3.2, to ensure continuous accuracy of instruments, replace "adequate" with "specified".

#### Creaming and disinfection

28. In 5.2.1 the correct title of the publication cited is "Recommended International Code of Practice - General Principles and Food Hygiene. Second revision".

29. Paragraph 5.2.2 could usefully be strengthened by reading as follows:

"To prevent contamination of food, all equipment and utensils should be cleaned immediately after use, and disinfected whenever circumstances demand, at least once per working day."

30. It would be valuable to make a specific mention of the danger of aerosols formed with high-water jets. The following extra sentence is proposed for 5.2.6:

"Cleaning with water of high pressure, resulting in the formation of aerosols should be avoided in processing areas during production".

31. It is desirable to dry production areas whenever possible. Add the following sentence to 5.2.7:

"Thorough drying of production areas between production periods is advisable".

#### Hygiene control programme

32. The provisions of 5.3 would be onerous for a small establishment. It may not be large enough, for example, to have a member of management staff independent of production, to be responsible for cleanliness. However, as the Code is "of an advisory nature", authorities may use discretion in applying it. The Milk Committee does not wish to propose any change.

#### Storage of hazardous substances

33. The Milk Committee proposes to extend the final sentence of 5.7.1 to read as follows:

"Extreme care should be taken to avoid contaminating food, food additives and ingredients."

#### Visitors

34. Certain categories of personnel should be subjected to the constraints of 6.9 relating to visitors, for example, maintenance engineers, craftsmen, electricians.

The Milk Committee proposes to amend the first sentence as follows:

"6.9 Visitors and other persons with tasks not related to daily production. Precautions should be taken to prevent visitors to food handling areas and personnel with tasks not related to daily production (maintenance engineers, craftsmen, electricians, etc.) from contaminating food. Such persons should observe..."

#### Raw material requirements

35. In the view of the Milk Committee clause 7.1.2 is not clear. Is it intended to refer to chemical contamination (pesticide residues, heavy metals, antibiotic residues) or microbial contamination? The CCFH is requested to give guidance.

### Prevention of Cross-Contamination

36. In 7.2.1, the phrase "at an earlier stage of the process" has attracted the comment that contamination should be prevented at all stages of the process. The Milk Committee suspects that the intention was to warn against contact between pasteurized material and materials in the same plant that are not so far advanced through the process and suggests the following wording. CCFH is however requested to ascertain that the Milk Committee's interpretation is correct:

"...by direct or indirect contact with materials or ingredients that are still at an earlier stage in the process".

### Processing

37. At its 22nd Session (Rome, November 1990) the Milk Committee also considered a draft Group Standard for Uncured/Unripened Cheese (see CL 1990/14-MDS of March 1990). In the course of discussion of this paper, the Milk Committee recognized that pasteurization may be carried out on the coagulum or even on the finished product, in which case it would not be necessary to pasteurize the cheesemilk before the process began. It is therefore proposed to amend the first sentence of 7.4.3 to read as follows:

"7.4.3 Unless the coagulum or finished product are pasteurized, after inspection and testing, the incoming milk or liquid milk products should be pasteurized directly..."

### Use of raw milk

38. The Milk Committee had a detailed and lengthy discussion of legislation in the various countries with respect to the use of raw and pasteurized milk for the manufacture of the cheeses in question. From this exchange it became clear that, although the use of raw milk is specifically forbidden in relatively few countries, the majority of countries use largely, or solely, pasteurized milk for the cheese making. In those countries in which raw milk cheese is produced the quality of the raw milk is often the subject of stringent requirements to guarantee the safety of raw milk cheese.

The Milk Committee agrees that the milk used for making uncured/unripened cheese should always be pasteurized (unless the coagulum or finished product are pasteurized), but the situation for ripened soft cheese is different. Cheeses of this kind have been made from raw milk and consumed for centuries. They have a place on the market, subject to appropriate public health requirements. At the same time countries which wish to prohibit home production and importation of such products are free to do so.

The Milk Committee proposes that ripened soft cheese made from raw milk should be dealt with in a separate annex to the Code of Hygienic Practice. This annex should cover the following aspects:

- a) quality criteria for the raw milk used for making the cheese
- b) processing conditions
- c) microbiological end product specifications
- d) labelling requirements.

To introduce this annex the following (new) clause 7.4.4 is proposed:

"7.4.4 Ripened soft cheese may be made from raw milk under conditions specified in the Annex [to be developed]."

The remaining clauses of 7.4 will need to be renumbered.

The Milk Committee has requested the International Dairy Federation to develop the annex and submit it to the Codex Committee on Food Hygiene when ready.

#### Lot identification

39. The wording should reflect earlier definitions of the word "lot". In 7.5.5 the latter part of the second sentence should be amended to read:

"...a lot number that identifies the production during a limited time interval, and usually from a particular "line" or other processing unit".

This applies also in clause 9(1), final paragraph, p.17.

#### Sampling and Laboratory Control Procedures

40. It is important to have good acid production to produce good quality cheese and this should be mentioned in 7.7.3 (v).

With this and the amendment proposed in paragraph 8 above, 7.7.3 (v) will read as follows:

"(v) Processing and manufacturing stages, including pasteurization (by means of the phosphatase test\*) and acid development.

\*A negative phosphatase test is considered to be equivalent to less than 4.0 micrograms of phenol liberated by 1 ml of sample (IDF Standard 63:1971) or less than 10 micrograms of para-nitrophenol liberated by 1 ml of sample (IDF Provisional Standard 82A:1987)"

#### Microbiological Criteria

41. The comments on microbiological criteria (8.3, 9.1, 9.2, 9.3) are under study by the International Dairy Federation. The Milk Committee has asked IDF to report back to the CCFH.

42. The Milk Committee has come to the conclusion that the microbiological criteria for raw milk cheese and pasteurized milk cheeses can be different, except in relation to the content of pathogenic organisms which, being determined by considerations of public health, have to be identical. The microbiological criteria represent the final check that processing has been correctly carried out. In practice, manufacturing procedures are such as to produce products that are well inside the limits demanded by requirements of public health.

**DRAFT INTERNATIONAL GROUP STANDARD FOR CHEESES IN BRINE**

**1. SCOPE**

This standard applies to Cheeses in Brine for direct consumption. Where international individual standards contain provisions which are more specific than those in this standard, such more specific provisions shall apply to the original variety.

**2. DESCRIPTION**

Cheeses in brine are products which comply with the definition in Section 2 of Standard A-6, "Recommended General Standard for Cheese" and which have been matured and preserved in brine until delivered to, or prepackaged for, the consumer.

**2.1 Coagulation**

The milk is coagulated by rennet or other suitable enzymes, or other relevant processing techniques involving coagulation.

**2.2 Fermentation**

The milk is fermented by lactic acid producing bacteria.

**2.3 Maturation**

the cheese is matured in brine for not less than 15 days at a temperature not higher than 20°C. Cheese made from unpasteurised milk should be matured at a temperature not less than 7 C and be at least 60 days old before sale to the consumer.

**3. ESSENTIAL COMPOSITION AND QUALITY FACTORS**

**3.1 Essential ingredients**

- cow's milk, goat's milk, sheep's milk, buffalo's milk, or mixtures of these milks.
- cultures of harmless lactic acid producing bacteria (starter)
- rennet or other suitable coagulating enzymes
- sodium chloride.

**3.2 Optional ingredients**

- safe and suitable enzymes to assist in flavour development
- natural flavouring substances not derived from milk, such as spices, may be added in such quantity that they can be considered only as flavouring substances, provided that such substances are not intended to take the place of any milk constituent and provided that the milk remains the major constituent.

### 3.3 Composition

|                                    | Soft |    |    | Semi-hard |
|------------------------------------|------|----|----|-----------|
|                                    | A    | B  | C  | D         |
| 3.3.1 Fat, minimum in dry matter % | 50   | 45 | 40 | 40        |
| 3.3.2 Dry matter content %         | 44   | 42 | 40 | 52        |

### 3.4 Other characteristics

3.4.1 Consistency: semi-hard to soft, sliceable in thick slices.

3.4.2 Shape: various

3.4.3 Dimensions: various

3.4.4 Weights: various

3.4.5 Rind: no actual rind, but soft or semi-hard surface

3.4.6 Appearance: moist

3.4.7 Colour: white or yellowish

3.4.8 Texture: compact, sliceable in thick slices

3.4.9 Holes: none to a few mechanical openings

## 4. FOOD ADDITIVES

|                                       | Max. net weight in milk used |
|---------------------------------------|------------------------------|
| Calcium chloride (CaCl <sub>2</sub> ) | 20 mg/kg                     |
| Lactic acid                           | GMP                          |
| Glucono-delta-lactone                 | 10 mg/kg                     |
| Chlorophyll and chlorophyll           |                              |
| Copper complex                        | 15 mg/kg                     |
| Patent Blue V                         | 2 mg/kg                      |
| Brilliant Blue FCF                    | 2 mg/kg                      |

## 5. METHODS OF SAMPLING AND ANALYSIS

### 5.1 Sampling

According to FAO/WHO Standard B1 "Sampling Methods for Milk and Milk Products..." Special requirements for cheese in brine: A representative piece of cheese is placed on a cloth or on a sheet of non-absorbant paper for 5 to 10 min. A slice of 2-3 cm is cut off and sent to the laboratory in a sealed insulated box for analysis.

### 5.2 Determination of fat content

According to FAO/WHO Standard B3 "Determination of the Fat Content of Cheese and of Processed Cheese Products".

### 5.3 Determination of dry matter content According to FAO/WHO Standard

### 5.4 Determination of salt content

According to FAO/WHO Standard B18 "1978 - Cheese - Determination of chloride content (reference method).

**6. LABELLING**

Only cheese in this standard may be designated Cheese in Brine or by a variety name according to international or national individual standards. It shall be labelled in conformity with the appropriate sections of Article 4 of FAO/WHO Standard A6 "General for Cheese".

**DRAFT INTERNATIONAL GROUP STANDARD FOR UNCURED/UNRIPENED  
CHEESES**

**1. SCOPE**

This standard applies to uncured or unripened cheeses. Where international individual standards contain provisions which are more specific than those in this standard such more specific provisions shall apply to the individual variety.

**2. DESCRIPTION**

Uncured or unripened cheeses are products which comply with the definition in Section 2 of Standard A6 "Recommended General Standard for Cheese" and which are ready for consumption shortly after manufacture.

**2.1 Method of Manufacture**

- 2.1.1 Coagulation: by the action of lactic acid bacteria, rennet or other suitable coagulating agents or combinations thereof.
- 2.1.2 Heat treatment of milk: unless the coagulum or finished products are pasteurized (See 2.1.3), the milk and milk ingredients shall be pasteurized, min. 72°C for 15 seconds (or equivalent heat treatment for pasteurization). The Codex definition applies and higher time/temperature combinations may be necessary for fat enriched substrates.
- 2.1.3 Heat treatment of coagulum: may or may not be done Unripened/uncured cheese may be heat treated after fermentation and coagulation.
- 2.1.4 Fermentation procedure: where fermentation of the milk ingredients is performed, it is done so by lactic acid producing bacteria.
- 2.1.5 Storage: uncured/unripened cheese shall be kept refrigerated (less than 5°C) unless heat treated and aseptically packed after fermentation and coagulation.
- 2.1.6 Maturation: none.

**3. ESSENTIAL COMPOSITION AND QUALITY FACTORS**

**3.1 Essential ingredients**

- milk from cows, goats, ewes, buffaloes or mixtures of these milks:
- cultures of harmless lactic acid producing bacteria (starters):
- rennet or other suitable coagulating enzymes:
- sodium chloride:

**3.2 Optional ingredients**

- Milk, skimmed milk, cream, whey, buttermilk or constituents thereof. These ingredients may be concentrated, dried or hydrolysed.
- Water:
- Foodstuffs or flavouring substances not derived from milk products and intended to give a specific flavour to the products and not to take the place of any milk constituent shall be 30% maximum.



|   |                                 |
|---|---------------------------------|
| Colouring agents                                |                                 |
| alpha, beta and gamma carotenes                 | 10 mg/kg 15 mg/kg               |
| annatto expressed as norbixin                   |                                 |
| beta-apo-8'corotenal                            |                                 |
| chlorophyll and chlorophyllin copper complex    |                                 |
| lactoflavin (riboflavin)                        |                                 |
| curcumin  |                                 |
| carminic acid                                   |                                 |
| beet red  |                                 |
| Preservatives                                   |                                 |
| sorbic acid and its salts expressed as the acid | 1 g/kg singly or in combination |
| Carriers for stabilizers                        |                                 |
| sucrose   | limited by GMP                  |
| dextrose  |                                 |
| corn syrup solids                               |                                 |
| dextrine  |                                 |
| glycerine                                       |                                 |
| pH adjusters                                    |                                 |
| lactic acid                                     | limited by GMP                  |
| citric acid                                     |                                 |
| acetic acid                                     | limited by GMP                  |
| hydrochloric acid                               |                                 |
| phosphoric acid                                 |                                 |

## 5. METHODS OF SAMPLING AND ANALYSIS

- 5.1 Sampling: according to FAO/WHO Standard BI "Sampling Methods for Milk and Milk Products".
- 5.2 Determination of milk fat content: according to FAO/WHO Standard B3: "Determination of the Fat Content of Cheese and of Processed Cheese Products".
- 5.3 Determination of milk protein content: according to FAO/WHO Standard....
- 5.4 Determination of dry matter content: according to FAO/WHO Standard....

## 6. LABELLING

Only cheese conforming to this standard may be designated "Uncured or Unripened Cheese" or by a description or a variety name according to international or national standards. It shall be labelled in conformity with the appropriate section of Article 4 of FAO/WHO Standard A6 "General Standard for Cheese". Carriers for stabilizers

**DRAFT A-14 STANDARD FOR EDIBLE RENNET CASEIN**

**1. SCOPE**

This standard applies to dried edible casein products derived from cow's milk as described in 2. It covers two grades A and B which differ in the contents of protein and milk derives non-protein constituents.

**2. DESCRIPTION**

Eddible Rennet Casein is the product obtained after washing and drying the coagulum remaining after separating the whey from skimmed milk which has been coagulated by rennet or by other coagulating enzymes.

**3. ESSENTIAL COMPOSITION AND QUALITY FACTORS**

**3.1 Essential ingredients**

Skimmed milk

**3.2 Composition**

|  | Grade A | Grade B | Grade C |
|--|---------|---------|---------|
| 3.2.1 Protein (total N x 6.38<br>% in dry matter minimum | 88      | 84      | 90      |
| 3.2.2 Milk fat<br>% in dry matter maximum                | 1.5     | 2.0     | 2.25    |
| 3.2.3 Ash<br>% in dry matter minimum                     | 7.0     | 7.0     | 7.5     |
| 3.2.4 Lactose<br>% in dry matter maximum                 | 0.5     | -       | 1.0     |
| 3.2.5 Moisture<br>% maximum                              | 12.0    | 12.0    | 10.0    |

**3.3 Quality Factors**

3.3.1 Physical appearance: white to pale cream colour: if ground, free from lumps that do not break under slight pressure.

3.3.2 Scorched particles and extraneous matter: maximum 15 mg/25 g.

3.3.3 Flavour and odour: Grade A: must be natural: free from offensive flavours and odours.

Grade B: no more than slight foreign flavours and odours: free from offensive flavours and odours.

## **IDF STANDARD**

(Unless otherwise indicated)

### 50A: 1980 - Milk and Milk Products Guide to Sampling Techniques

- 8.2 Protein: 92: 1979 - Caseins and Caseinates - Determination of protein content.
- 8.3 Milk fat: In preparation
- 8.4 Ash: 90: 1979 - Rennet Caseins and Caseinates -Determination of ash.
- 8.5 Lactose: 106: 1982 - Caseins and Caseinates - Lactose content.
- 8.6 Moisture: 78B: 1980 - Caseins and Caseinates - Determination of water content.

#### **4. FOOD ADDITIVES**

Rennet or other similar and suitable coagulating enzymes.

5.

Rennet or other similar and suitable coagulating enzymes.

#### **5. CONTAMINANTS**

- |     |        |         |          |
|-----|--------|---------|----------|
| 5.1 | Copper | maximum | 5 mg/kg  |
| 5.2 | Lead   | maximum | 2 mg/kg  |
| 5.3 | Iron   | maximum | 20 mg/kg |

#### **6. HYGIENE**

- 6.1 Edible Rennet Casein should be manufactured in conformity with the General Code of Hygienic Practice for the Dairy Industry (IDF Document 123: 1980).
- 6.2 The skimmed milk, or the coagulum, should be adequately heat treated to minimize possible health hazards arising from pathogenic micro-organisms associated with milk and/or to comply with any specific microbiological criteria.
- 6.3 Equipment and apparatus for the manufacture of edible rennet casein should preferably be made of stainless steel, or other suitable non-contaminating material.

#### **7. LABELLING**

- 7.1 The products should be generally labelled in accordance with the FAD/ WHO Codex Alimentarius Commission "Recommended Guidelines for the Labelling of Non Retail Containers of Food" (in preparation).
- 7.2 The description shall include the:
  - 7.2.1 Name of the product: "Edible Rennet Casein" or "Rennet Casein, Edible".
  - 7.2.2 Quality Grade: "Grade A" or "Grade B".

## **8. ANALYTICAL METHODS**

### **IDF STANDARD**

(Unless otherwise indicated)

- |      |                    |   |
|------|--------------------|---|
| 8.1  | Sampling:          | 113: 1982 - Milk and Milk products - Sampling - Attribute sampling scheme |
| 8.7  | Scorched Particles | 107: 1982 - Caseins and Caseinates -Scorched particles content.           |
| 8.8  | Copper:            | 76A: 1980 - Milk and Milk Products - Determination of copper content      |
| 8.9  | Lead:              | IDF method under development.   |
| 8.10 | Iron               | 103: 1981 - Milk and Milk Products - Determination of the iron content.   |

## **9. ADVISORY MICROBIOLOGICAL CRITERIA**

See Addendum 1 to IDF Document 123 (1980), General Code of Hygienic Practice for the Dairy Industry (see D-Doc 108).

**DRAFT A-15 STANDARD FOR FOOD GRADE SWEET WHEY AND ACID POWDERS**

**1. SCOPE**

This standard applies to food grade whey powders derived from cow's milk.

The standard does not apply to powders prepared from neutralized or demineralized whey.

**2. DEFINITIONS**

2.1 Whey powders are prepared by spray or roller drying sweet or acid whey from which the major portion of milkfat has been removed.

2.2 Whey is the fluid separated from the curd after the coagulation of milk, cream, skimmed milk or butter milk in the manufacture of cheese, casein or similar products.

2.3 Sweet whey is obtained after coagulation principally with rennet type enzymes.

2.4 Acid whey is obtained after coagulation principally with acids of the type used for the manufacture of edible acid casein, or fresh cheese.

**3. ESSENTIAL COMPOSITION AND QUALITY FACTORS**

3.1 Essential ingredients

Edible quality sweet or acid whey derived from cow's milk, ewe's milk or buffalo milk.

3.2 Optional Ingredient

Seed lactose as a processing aid in the manufacture of pre-crystallized (non-hygroscopic) whey powder.

3.3 Composition

|  | Sweet Whey Powder | Acid Whey Powder |
|--|-------------------|------------------|
| 3.3.1 Lactose (anhydrous) minimum %      | 61.0              | 61.0             |
| 3.3.2 Protein (Total N x 6.38) minimum % | 11                | 10               |
| 3.3.3 Fat minimum %                      | 2                 | 2                |
| 3.3.4 "Free" moisture maximum %          | 4.5               | 4.5              |
| 3.3.5 Ash maximum %                      | 9.5               | 15.0             |
| 3.3.6 PH (in 10% solution)               | 5.6 min           | 5.1 max.         |

3.4 Quality Factors

3.4.1 Physical Appearance: Uniform colour corresponding to that of the whey from which the powder is derived. Free from lumps that do not break up under moderate pressure.

### 3.4.2 Flavour and Odour: Free from off flavours and odours

Where milk other than cow's milk is used for the manufacture of the product or any part thereof, a word or words denoting the animal or animals from which the milk has been derived should be inserted immediately before or after the designation of the product except that no such insertion need be made if the consumer would not be misled by its omission.

## 4. FOOD ADDITIVES

- 4.1 Additives carried over as a result of their use at permissible levels in the manufacture of cheese, edible casein and similar products.
- 4.2 Edible quality anti-foaming agents as processing aids.
- 4.3 Food grade acid as a processing aid to prevent adherence to rollers in the manufacture of roller dried powders, in quantity in accordance with good manufacturing practice.
- 4.4 Edible quality free-flow agents.

## 5. CONTAMINANTS

|                             | <b>maxima<br/>mg/kg</b> |
|-----------------------------|-------------------------|
| 5.1 Copper                  | 5                       |
| 5.2 Lead                    | 2                       |
| 5.3 Iron spray dried powder | 20                      |
| roller dried powder         | 50                      |

## 6. HYGIENE

- 6.1 Food grade whey powders should be manufactured in conformity with the "General Code of Hygienic Practice for the Dairy Industry" IDF Document 123: 1980.
- 6.2 The whey should be adequately heat-treated to minimize possible health hazards arising from pathogenic micro-organisms associated with milk and/or to comply with any specific microbiological criteria.
- 6.3 Equipment and apparatus for the manufacture of food grade whey powders should preferably be made of stainless steel, or other suitable non-contaminating material.

## 7. LABELLING

- 7.1 The products should be generally labelled in accordance with the FAO/WHO Codex Alimentarius Commission "Recommended Guidelines for the Labelling of Non-Retail Containers of Food" (in preparation).
- 7.2 The description shall include the:
  - 7.2.1 Name of the product: "Food Grade Sweet Whey Powder" or "Food Grade Acid Whey Powder".
  - 7.2.2 Type of drying operation: roller dried or spray dried
  - 7.2.3 The presence of anti-foam and free-flow agents shall be declared when used.

## **8. SAMPLING & METHODS OF ANALYSIS**

Standard

- 8.1 Sampling IDF 113: 1982 - Milk and Milk Products - Sampling -Attribute sampling scheme. 50A: 1980 - Milk and Milk Products - Guide to sampling techniques.
- 8.2 Lactose: IDF 79: 1977 - Determination of lactose in the presence of reducing substances.
- 8.3 Protein. IDF 92: 1979 - Casein and caseinates Determination of protein content.
- 8.4 Fat. IDF 9A: 1969 - Determination of the fat content of dried milk.
- 8.5 "Free" moisture. IDF 58: 1970 - Determination of dry matter content of whey cheese.
- 8.6 Ash. IDF 90: 1979 - Rennet casein and caseinates - Determination of ash.
- 8.7 PH IDF 115: 1982 - Caseins and caseinates -Determination of PH Reference method.
- 8.8 Copper. IDF 76A: 1980 - Determination of copper content.
- 8.9. Lead. IDF method in preparation.
- 8.10 Iron. IDF 103: 1981 - Determination of iron content.

## **9. ADVISORY MICROBIOLOGICAL CRITERIA**

General Code of Hygienic Practice for the Dairy Industry. Document 123: 1980, Addendum 1: 1983 (see D-Doc 108).

### Footnote:

Although the powders may contain both anhydrous lactose and lactose monohydrate, in Section 3.3.1 the lactose content is expressed as anhydrous lactose-

Note: 100 parts of lactose monohydrate contain 95 parts of anhydrous lactose.

**Amended Procedure for Elaborating and Publishing Methods  
of Sampling and Analysis**

**Step (a):**

The Committee states its requirements concerning sampling and analysis necessary for the application of the Code and the standards of composition it has adopted or has under consideration.

**Step (b):**

The Committee invites the International Dairy Federation (IDF) to agree a method in principle with the International Organization for Standardization (ISO) and the Association of Official Analytical Chemists (AOAC) and to prepare a preliminary standard.

**Step (c):**

This preliminary standard is then submitted by IDF to the Secretariat.

**Step (d):**

The Secretariat notifies all FAO and WHO Member Governments that the preliminary standard is available with IDF, ISO and AOAC, and invites comments.

**Step (e):**

The Secretariat transmits the comments to IDF, ISO and AOAC.

**Step (f):**

IDF, ISO and AOAC prepare and publish the final version of the method and transmit a copy to the Secretariat.

**Step (g):**

The Secretariat notifies all FAO and WHO Member Governments that the final version of the method is available with IDF, ISO and AOAC, and requests the Committee's approval.

**Step (h):**

The Secretariat regularly advises all FAO and WHO Member Governments of the methods agreed to by IDF, ISO and AQAC, and approved by the Committee.

Report of the Tripartite IDF/ISO/AOAC Working Group on  
Methods of Analysis and Sampling

Methods submitted to FAO/WHO Milk Committee by IDF/ISO/AOAC

1. Representatives of IDF, ISO, AOAC met in Rome on 2 and 3 November 1990 to discuss the methods of analysis required for the Code of Principles concerning Milk and Milk Products.

Present: Mrs, M. Lauwaars (AOAC) in the Chair  
Mr. R.A. Case (AOAC)

Dr. H.W. Schipper (ISO)  
Dr. M. van Schaik (ISO)

Dr. M. Carl (IDF-FIL)  
Mr. R. Grappin (IDF-FIL)  
Mr. J.E. Hopkin (IDF-FIL)  
Dr. R. Lodi (IDF-FIL)  
Mr. B. Olsen (IDF-FIL)

At the opening of the meeting the representatives observed a minute silence in memory of Dr. R.W. Weik, late Chairman of the "Milk Committee" and active in the IDF/ISO/AOAC Tripartite work for many years.

A special mid-term meeting was held in Rome in July 1988 between the Milk Committee Secretariat and the representatives of IDF, ISO and AOAC to discuss the proposed amended procedure for elaboration of standard methods of analysis and sampling. The meeting also undertook to review progress and prepare for the 1990 Milk Committee session.

2. The November 1990 meeting reviewed the report submitted to the Twenty-first Session of the Milk Committee (1986) (Appendix VI to CX 5/70 - 21st Session) and the development of the methods submitted on that occasion.

The meeting also examined the list of methods required under the Code but not yet available. These are methods for which provision is made in the compositional standards but for which no appropriate methodology has been standardized. The present situation is as follows:

**Anhydrous milkfat etc. (Standard A-2)**

- Water content (Karl Fischer) Referred to joint group of experts (E5)
- Fat content (indirect method)
- Dissolved oxygen content Work is in hand by a joint group of experts (E57) but progress is slow

**Low fat dairy spreads (Standard A-16)**

- Fat content
- Lead content The method published for lead in canned meat products (FAO/WHO ref. B-50) may hopefully be adapted to apply to this product depending on the level of the requirement.



4. In relation to the determination of vegetable protein in milk protein, work is in hand, focusing on soya protein by a group of experts (E67) using an ELISA technique.
5. In view of the proposed new arrangements for Milk Committee methods, the three organizations are recapitulating the list of methods already adopted (Part 1) and submitting methods revised or agreed since the Milk Committee's session in 1986 (Parts 2, 3 and 4).

The IDF/ISO/AOAC Tripartite Group recommends that the B-series of references for methods of analysis be retained in order to simplify cross reference in the Code of Principles standards of identity.

6. The Milk Committee is requested to adopt the new methods and revised methods in Part 2 (step (g)), Part 3 (step (d)), and Part 4 (step (f)) and to ask its Secretariat to inform governments in accordance with the amended procedure for the elaboration of standard methods of analysis and sampling (MDS 90/17 (a)).
7. The Tripartite Group wishes to make the following observations with respect to the methods listed below:

**B48 Natamycin content**

The method submitted in 1986 at step (d) is to be revised editorially and reissued.

**B50 Lead content in canned products**

The applicability to the products in question will require further development of the existing method. Work is in hand by a joint group of experts (E15).

**B53 Polychlorinated biphenyls**

As a guide to the determination of polychlorinated biphenyls the IDF Standard gives 2 methods of determination and an informative section on further analytical possibilities.

While one method is based on the "classical" principle of pattern comparison with suitable technical mixtures, the other (more advanced) method is based on the concept of single representative congener determination. Application of this concept gives clearly defined contents of specific congeners and is expected to replace the classical principle in future. New legislation based on the "new" principle has been introduced in the Netherlands, Finland and Germany.

**B54 Aflatoxin M1**

More sensitive methods are being worked on by a joint group of experts (E33).

**Sorbic and benzoic acids in yoghurt (not yet submitted)**

The existing standard method (IDF Standard 139:1987, ISO/CD 9231) is being revised to eliminate interference from some components found in flavoured yoghurts.

**Definition of protein**

Considering the need for a definition of protein content, i.e. "crude protein" (N x 6.38) versus "true protein" ((Nitrogen - non protein N) x 6.38), the latter being used for milk payment, the IDF/ISO/AOAC Tripartite Group will ask IDF Commission D to consider this question. Joint group of experts E27 is currently developing a method for direct or indirect measurement of true protein.

**PART 1 - METHODS OF ANALYSIS & SAMPLING ADOPTED BY THE "MILK COMMITTEE" AT STEP (h)**

| Subject  | FAO ref | Publication references  |         |                         |
|--|---------|-------------------------|---------|-------------------------|
|  |         | IDF Standard            | ISO     | AOAC (15th ed.)         |
| Milk & milk products - Methods of sampling   | B1      | 50B:1985                | 707:85  | 968.12                  |
| Dried milk, dried whey, dried buttermilk, dried butter serum - Determination of fat content (Rose-Gottlieb reference method) | B2      | 9C:1987                 | 1736:85 | 932.06                  |
| Cheese & processed cheese products - Determination of fat, content (Schmid-Bondzynski-Ratzlaff reference method)             | B3      | 5B:1986                 | 1735:87 | 933.05                  |
| Milkfat products & butter - Determination of fat acidity   | B4      | 6B:1989                 | 1740:75 | 969.17                  |
| Determination of refractive index of fat from butter   | B5      | 7A:1969<br>(conf.1983)  | 1739:75 | 969.18                  |
| Milk - Determination of fat content (R.G.* reference method)   | B6      | 1C:1987                 | 1211:84 | 905.02                  |
| Evaporated & sweetened condensed milk - Determination of fat content (R.G. reference method)                                 | B7      | 13C:1987                | 1737:85 | (920.115 F<br>(945.48 G |
| Butter - Determination of salt (chloride) content  | B8      | 12B:1988                | 1738:80 | 960.29                  |
| Butter - Determination of water, solids-non-fat & fat contents on the same test portion                                      | B9      | 80:1977                 | 3727:77 | 920.116                 |
| Whey cheese - Determination of fat content (R.G. ref. method)  | B10     | 59A:1986                | 1854:87 | 974.09                  |
| Determination of dry matter content of whey cheese (ref. m.)   | B11     | 58:1970                 | 2920:74 | -                       |
| Cheese & processed cheese products - Determination of phosphorus content   | B12     | 33C:1987                | 2962:84 | -                       |
| Determination of citric acid content of cheese & processed cheese  | B13     | 34B:1971                | 2963:74 | 976.15                  |
| Polarimetric determination of the sucrose content of sweetened condensed milk  | B14     | 35:1966<br>(conf. 1983) | 2911:76 | 920.115 I-J             |
| Cream - Determination of fat content (R.G. reference method)   | B15     | 16C:1987                | 2450:85 | 920.111 A               |
| Detection of vegetable fat in milkfat by the phytosteryi acetate test)   | B16     | 32:1965                 | 3595:76 | 955.34 A                |
| Detection of vegetable fat in milkfat by gas-liquid chromatographic of sterols   | B17     | 54:1979                 | 3594:76 | 970.50 A                |

|  |     |                             |          |  |
|--|-----|-----------------------------|----------|--|
| Cheese & processed cheese products - Determination of chloride content                   | B18 | 88A:1979                    | 5943:88  | 983.14                                   |
| Cheese - Determination of nitrate & nitrite contents (by cadmium reduction & photometry) | B19 | 84A:1984                    | 4099:84  | (976.14)<br>(> 1 mg/kg NO <sub>3</sub> ) |
| Anhydrous milkfat - Determination of the peroxide value                                  | B20 | 74:1974<br>(conf.<br>1985)  | 3976:77  | not 965.33 A                             |
| Milk & milk products - Sampling - inspection by attributes                               | B21 | 113:1982<br>(conf.<br>1987) | 5538:87  | -  |
| Caseins & caseinates - Determination of the water content (reference method)             | B22 | 78B:1980<br>(conf.<br>1986) | 5550:78  | -  |
| Rennet casein & caseinates - Determination of ash (reference method)                     | B23 | 90:1979<br>(conf.<br>1986)  | 5545:78  | -  |
| Caseins & caseinates - Determination of "fixed ash" (reference method)                   | B24 | 89:1979<br>(conf.<br>1986)  | 5544:78  | -  |
| Caseins & caseinates - Determination of protein content (reference method)               | B25 | 92:1979<br>(conf.<br>1986)  | 5549:78  | -  |
| Caseins & caseinates - Determination of free acidity (reference method)                  | B26 | 91:1979<br>(conf.<br>1986)  | 5547:78  | -  |
| Dried milk & dried ice mixes - Determination of lactose content                          | B27 | 79A:1989                    | DIS 5765 | -  |
| Dried milk - Determination of titratable acidity (ref. method)                           | B28 | 86:1981                     | 6091:80  | -  |
| Milk, cream & evaporated milk - Determination of total solids content                    | B29 | 21B:1987                    | 6731:89  | (925.23A,<br>920.107,<br>945.48 D)       |
| Sweetened condensed milk - Determination of solids content                               | B30 | 15B:1988                    | 6734:89  | not 920.115 D                            |
| Cheese & processed cheese - Determination of total solids                                | B31 | 4A:1982                     | 5534:85  | all methods differ                       |
| Skimmed milk, whey, buttermilk - Determination of fat content (R.G. reference method)    | B32 | 22B:1987                    | 7208:84  | -  |
| Milk - Determination of freezing point   | B33 | 108A:1986                   | 5764:87  | 990.22                                   |
| Caseins & caseinates - Determination of scorched particles                               | B34 | 107:1982                    | 5739:83  | -  |
| Milk & milk products - Determination of iron content                                     | B35 | 103A:1986                   | 6732:85  | -  |
| Milk & milk products - Determination of copper content                                   | B36 | 76A:1980                    | 5738:80  | 960.40                                   |

|   |     |           |         |   |
|---|-----|-----------|---------|---|
| Caseins & caseinates - Measurement of pH                | B37 | 115A:1989 | 5546:79 | - |
| Caseins & caseinates - Determination of lactose content | B38 | 106:1982  | 5548:80 | - |

**PART 2 - METHODS SUBMITTED FOR ADVANCEMENT TO STEP (g)**

|  |     |                             |           |                      |
|--|-----|-----------------------------|-----------|----------------------|
| Milk & milk products - Sampling - Inspection by variables          | B39 | 136:1986                    | 8197:88   | -                    |
| Milk & milk products, special cases - Fat content (W.B.)           | B40 | 126A:1988                   | 8262/3:87 | -                    |
| Caseins & caseinates - Fat content (SBR reference method)          | B41 | 127A:1988                   | 5543:86   | -                    |
| Caseins & caseinates - Nitrate & nitrite contents                  | B42 | 120:1984                    | 8195:87   | -                    |
| Dried milk - Nitrate & nitrite contents                            | B43 | 95A:1984                    | 6736:82   | -                    |
| Dried whey - Nitrate & nitrite contents                            | B44 | 97A:1984                    | 6740:85   | -                    |
| Whey cheese - Nitrate & nitrite contents                           | B45 | 96A:1987                    | 6739:88   | -                    |
| Dried milk - Sodium & potassium contents                           | B46 | 119A:1987                   | 8070:87   | 990.23               |
| Processed cheese products - Calculation of added phosphat          | B47 | 51A:1985                    | -         | -                    |
| Cheese & cheese rind - Natamycin content                           | B48 | 140:1987                    | DIS 9233  | -                    |
| Milk - Nitrogen (protein) content                                  | B49 | 20A:1986                    | CD 8968   | 920.105              |
| Canned liquid milk products - lead content                         | B50 | 133:1986                    | DIS 6733  | -                    |
| Milk & milk products - Organochlorine pesticide residues content   | B51 | 75B:1983                    | DIS 3890  | 970.52               |
| Milk & milk products - Organophosphorus pesticide residues content | B52 | in draft                    | CD 9275   | 970.52               |
| Milk & milk products - Polychlorinated biphenyls content           | B53 | 130:1985                    | CD 8260   | 970.52               |
| Milk & dried milk - Aflatoxin M <sub>1</sub> content               | B54 | 111:1982<br>(conf.<br>1987) | CD7923    | 980.21 A<br>974.17 A |

W.B. =Weibull-Berntrop

**PART 3 - NEW METHODS SUBMITTED AT STEP (d)**

| Subject   | FAO ref | Publication references       |               |                 |
|---|---------|------------------------------|---------------|-----------------|
|   |         | IDF Standard                 | ISO           | AOAC (15th ed.) |
| Processed cheese - Calculation of added citrate   | B55     | 52:1969 (rev.)<br>E-Doc 443  |               | -               |
| Milk and dried milk, buttermilk and dried buttermilk, whey and dried whey - Determination of phosphatase activity | B56     | 63:1971 (rev.)<br>E-Doc 422  |               | -               |
| Milk and dried milk, buttermilk and dried buttermilk, whey and dried whey - Detection of phosphatase activity     | B57     | 82A:1987 (rev.)<br>E-Doc 422 | DIS<br>6090.2 | -               |
| Dried skimmed milk - Vitamin A content  | B58     | 142:1990                     |               | -               |
| Heat-treated milk - Lactulose content (HPLC & GLC methods)  | B59     | E-Doc 401                    |               | -               |
| Yogurt - Total solids content   | B60     | E-Doc 436                    |               | -               |
| Dried milk - Water content  | B61     | 26A:1964 (rev.)<br>E-Doc 436 | CD 5537.2     | -               |

**PART 4- REVISED METHODS SUBMITTED AT STEP (f)**

|   |     |                              |          |               |
|---|-----|------------------------------|----------|---------------|
| Processed cheese - Citric acid content  | B13 | 34B:1971 (rev.)<br>E-Doc 443 | 2963:74  | 976.15        |
| Anhydrous milkfat - Peroxide value  | B20 | 74:1974 (rev.)<br>E-Doc 440  | 3976:77  | not965.33A    |
| Milk and milk products - Sampling - Inspection by attributes  | B21 | 113:1982 (rev.)<br>E-Doc 419 | 5538:87  | -             |
| Casein & caseinates - Water content   | B22 | 78B:1980 (rev.)<br>E-Doc 436 | 5550:78  | -             |
| Dried milk and dried ice mixes - Lactose content  | B27 | 79A:1989                     | DIS 5765 | -             |
| Sweetened condensed milk - Total solids   | B30 | 15B:1988                     | 6734:89  | not 920.115 D |
| Processed cheese products - Calculation of added phosphate  | B47 | 51A:1985 (rev.)<br>E-Doc 443 | -        | -             |
| Milk - Nitrogen determination<br>Part 1 Kjeldahl crude protein<br>Part 2 Block digester crude protein<br>Part 3 Kjeldahl casein | B49 | 20A:1986 (rev.)<br>E-Doc 423 | CD 8968  | 920.105       |

|  |     |                                 |           |         |
|--|-----|---------------------------------|-----------|---------|
| Part 4 Block digester casein                             |     |                                 |           |         |
| Part 5 Kjeldahl non-protein-nitrogen                     |     |                                 |           |         |
| Part 6 Block digester non-protein-nitrogen               |     |                                 |           |         |
| Milk and milk products - Organochlorine pesticides       | B51 | 75B:1983<br>(rev.)<br>E-Doc426  | CD 3890.3 | 970.52  |
| Milk and milk products - Polychlorinated biphenyls (PCB) | B53 | 130:1985<br>(rev.)<br>E-Doc 426 | CD8260    | 970.52  |
| Milk and milk products - Aflatoxin M1                    | B54 | 111:1982<br>(rev.)<br>E-Doc381  | CD 7923   | 974.17A |

**PART 5 - FOR INFORMATION**

|   |   |   |  |  |
|---|---|---|--|--|
| Guide to the use of butyrometric methods for the determination of milkfat   | - | E-Doc 465                                       |  |  |
| Milk and milk products - Precision characteristics of an analytical method - Outline of collaborative study procedure | - | 135A:1988<br>(rev.)<br>E-Doc 428                |  |  |
| Detection of inhibitors   | - | Bull. IDF N°<br>220:1987<br>(rev.)<br>E-Doc 431 |  |  |

**IDF Statement on Aflatoxins in Milk**

**1. Practical levels of aflatoxin MI in milk**

IDF supports the need for JECFA to assess the toxicological status of aflatoxin and provides the following answers to the questions raised by CCFAC:

The aflatoxin MI (AFMI) content in milk varies depending on the different production systems and stages of blending (herd bulk milk, tanker and silo milk, milk for consumption). Surveys in European countries have shown that the AFMI levels vary between less than 10 ng/kg (ppt) and about 50 ppt. Depending on feeding conditions in certain areas, AFMI levels of 100 ppt and more have been reported.

Since the AFMI in milk is derived only from the aflatoxin B1 (AFBI) in feedingstuffs, the level of AFMI in milk is determined by both the concentration of AFBI in the daily feed ration and the amount of contaminated feed given to the dairy cows (i.e. the total dose of AFBI received by the cow). The AFMI levels in milk may be rapidly reduced by changing the feeding stuff. Components of feedingstuffs often containing high levels of AFBI include peanut, cotton seed, sunflower, coconut, corn gluten and the products thereof.

**2. Relation of level of AFMI in milk to AFBI level in feed**

The carry over rate (including the metabolic conversion) of AFBI to AFMI is relatively constant at 2+1% of the daily dose. This carry over rate takes into account factors including different breeds, contamination levels of the feeding stuffs and milk yield. Calculations of the mass transfer of aflatoxins in an area in Germany (about 500,000 cows) have shown a carry over rate of 1.9%. The half-time of aflatoxin MI in the milk is relatively short. If the intake of AFBI ceases, the AFMI levels in milk are reduced by about 50% within 25-36 hours.

**3. Availability and sensitivity of analytical methods for AFMI in milk**

Standardised chemical/physical methods are available with a sensitivity (limit of detection) down to 3 ppt and a limit of determination of 6 ppt although these may be difficult to achieve in all circumstances. Maximum residue limits (MRLs) as low as 10 ppt may be therefore enforceable but, under practical conditions, a relatively high analytical error exists at this level.

IDF/ISO/AOAC have standardized (International Standard 111:1982) a method for aflatoxin M1 using two dimensional t.l.c. and fluorodensimetric comparison. This standard is about to be revised in a refined version. However, as a lower level of detection is required and may not be possible with this method, IDF is also developing other methods.

Besides chemical/physical methods, enzyme-linked immunoassays are also available. These techniques are valuable screening methods since they are rapid, cheap and reach a precision which is comparable to that of chemical/physical methods. Bead- and microtiter-ELISA tests have been developed.

**Additional comments**

In some countries, MRLs for AFM- exist or are under consideration with for example limits being set at 10 ppt for infant's food and 50 ppt for the general milk supply. It is not possible to fix a general limit for the AFB- content of feeding stuffs, e.g. 10 ug/kg (ppb),

as feeding conditions and the level of inclusion of critical components in dairy rations may vary from country to country and within one country from region to region. The absolute intake of AFBI via the feeding stuffs is the determining factor for the AFM<sub>1</sub> concentration in the milk. Assuming a MRL of 10 ppt AFM<sub>1</sub> in the milk and a daily milk yield of 20 kg, 200 ng of AFM<sub>1</sub> might be excreted with the milk which, assuming the above carry-over factor represents a daily dose of AFB<sub>1</sub> of (10,000 ng or 10 ug) for the dairy cow, regardless of the concentration per kg of feeding stuff. For a minimum concentration of 50 ppt AFM<sub>1</sub> not more than 50 ug AFBI should be in the daily feed ration.

This situation explains that establishing maximum concentrations (MRLs) of AFB<sub>1</sub> in feeding stuffs cannot guarantee a certain MRL for AFM<sub>1</sub> in the milk. Conversely, if a MRL for AFB<sub>1</sub> in feeding stuffs is set (e.g. 5 or 10 ug/kg (ppb)), this does not guarantee MRLs for AFM<sub>1</sub> in the milk (e.g. 10 or 50 ppt). However, for practical legal control purposes, MRLs in feeding stuffs will be needed. In addition, special private arrangements between the feeding stuffs industry and the dairy industry may be necessary, in regions of high intakes of concentrates.

## Appendix XVI

### IDF Statement on Dioxins

Over the last few years, it has been established that bleaching of pulp with pure chlorine generates dioxins and furans. The dioxins and furans can enter the environment through water effluent and through products manufactured by this pulp, for instance raw material for milk cartons. However, dioxins have also been detected in products made from unbleached pulp.

The introduction of new bleaching processes during the last year has resulted in a dramatic decrease in the dioxin content in milk board, which has reached the level of less than 1 ppt. This level was originally set by BGA (Bundes Gesundheits-Amt, Germany) in May 1989 and was to be reached by May 1990.

Analyses results indicates that with a dioxin content less than 1 ppt. in milk cartons, no migration of dioxins and furans to milk is taking place.

When the traditional chlorine bleaching were used, the dioxin content in the cartons were higher than today and some migration took place. However, migration of dioxins from milk to carton were also found.

The migration consisted almost solely of 2,3,7,8-TCDF, a compound which is formed in particular during the bleaching process when pure chlorine is used as the bleaching agent.