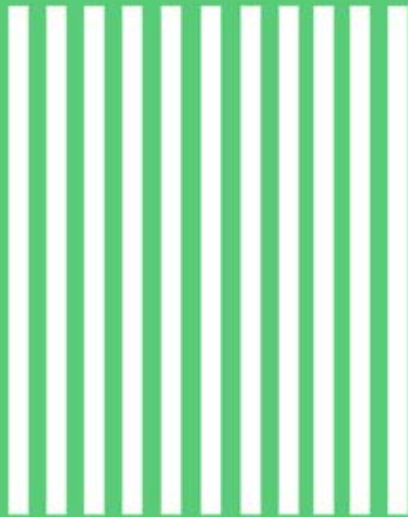


Joint FAO/WHO Food Standards Programme

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

Report of the Seventeenth Session

Held in Rome, Italy, 14-19 April 1975



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



CX 5/70 - 17th Session

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

Held at FAO Headquarters
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14-19 April 1975

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SUMMARY OF POINTS FOR ACTION BY GOVERNMENTS

1. Governments are requested to make their comments available by 31 December 1975 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 regarding any matter they would wish to raise.

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

<p>General Standard A-8(a) for Process(ed) Cheese or Process(ed) Cheese</p>	<p>- Governments to continue to submit their acceptances. (See 7th Edition of the Code of Principles and Addendum to CAC/M 1-1973, November 1974).</p>
<p>General Standard A-8(b) for "Process(ed) Cheese" and "Spreadable Process(ed) Cheese"</p>	
<p>General Standard A-8(c) for Processed Cheese Preparations (process(ed) Cheese Food and Process(ed) Cheese Spread)</p> <p>at Step 7 of the Committee's Procedure for the Elaboration of Milk and Milk Product Standards</p> <p style="padding-left: 40px;">When considering acceptance of compositional standards A-1 to A-5, A-7 and A-10, Governments should "bear in mind Decision No. 5 (see 7th Edition of the Code of Principles and paras, 65 to 70 of this Report).</p>	
<p>Compositional Standards A-1 to A-5 and A-7, redrafts at Step 7 of the above Procedure</p>	<p>- Governments to continue to submit their acceptances or confirm their acceptances. (See 7th Edition of the Code of Principles).</p>
<p>Compositional Standard A-10 for Cream-Powder at Step 7 of the above Procedure</p>	<p>- Governments to continue to submit their acceptances. (See 7th Edition of the Code of Principles)</p>
<p>Compositional Standard A-11 (a) for Yoghurt and Sweetened Yoghurt at Step 7 of the above Procedure</p>	<p>- Submitted to Governments for acceptance. (See paras 73 to 82 of this Report and Appendix VII).</p>
<p>Compositional Standard A-11 (b) for Flavoured Yoghurt at Step 5 of the above Procedure</p>	<p>- Governments to comment. Governments are requested in particular:</p> <p style="padding-left: 20px;">i) to propose a suitable terminology for "X" in heat-treated yoghurt;</p> <p style="padding-left: 20px;">ii) to provide the Secretariat with production and consumption figures of</p>

	flavoured and flavoured heat treated products and information regarding the consumer's attitude towards these products. (See paras. 83 to 90 of this Report and Appendix VIII).
- Compositional Standard A-9 for Cream at Step 5 of the above procedure	- Governments to comment. (See paras 49 to 90 of this Report and Appendix VI).
- Compositional Standard A-12 for Edible Acid Casein at Step 5 of the above Procedure	- Governments to comment, in particular on the maximum levels for lead. (See paras. 31 to 40 of this Report and Appendix IV).
- Compositional Standard A-13 for Edible Caseinate at Step 5 of the above Procedure	- Governments to comment in particular on the maximum levels for lead and on distinguishing in the pH values between sodium and calcium caseinates. (See paras. 31 to 48 of this Report and Appendix V).
- General Standard for Cheese A-6, redraft at Step 5 of the above Procedure	- Governments to comment in particular on the amended definition of cheese and on the labelling provisions for cheese made from reconstituted or recombined raw materials. (See paras. 12 to 19 and 63 to 72 of this Report and Appendix II).
<u>International Individual Cheese Standards</u>	
- C-1 to C-25 and C-26 to C-34 at Step 7 of the Procedure for the Elaboration of International Individual Cheese Standards	- Governments to continue to submit their acceptances. (See CAC/C1 - C25 (1972) Recommended International Standards for Cheeses and Government Acceptances, Appendices VII-A to VII-E to the Report of the 15th Session and Appendices V-A to V-D to the Report of the 16th Session. See also para 111 of this Report.).
- Extra Hard Grating Cheese at Step 5 of the above Procedure	- Governments to comment.
<u>Standard Methods of Analysis</u>	
- B-1 to B-8 and B-10 to B-15	- Governments to continue to submit their acceptances.(See 7th Edition of the Code of Principles).
- Determination of Nitrate in Cheese	- Governments to comment. (See para 110 of the Report and Appendices IX, XI, XII and XIII.).
- Determination of Titratable Acidity in Dried Milk.	
- Guide to the Number of Units to be selected when Sampling Dairy Products	
- Determination of the Peroxide Value in Milkfat (will be submitted later).	

<ul style="list-style-type: none">- Determination of Water, Solids not fat and Fat in Butter (B-9)- Determination of Chloride in Cheese- Determination of Foreign Fat in Milkfat (2 methods)	<ul style="list-style-type: none">- Submitted to the Committee for approval. (See para 110 of this Report and Appendices IX, X, and Report of the 16th Session Appendices X-B, X-C and X-D).
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REPORT OF THE SEVENTEENTH SESSION OF THE
JOINT FAO/WHO COMMITTEE OF GOVERNMENT EXPERTS ON THE CODE
OF PRINCIPLES CONCERNING MILK AND MILK PRODUCTS

Rome, 14-19 April 1975

INTRODUCTION

1. The Seventeenth 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 14-19 April 1975. The session was attended by 123 participants including representatives and observers from 40 countries, and observers from 7 organizations (see Appendix I for the List of Participants).

2. The Seventeenth Session of the Committee was convened by the Directors-General of FAO and WHO. The meeting was opened by Dr. H. A. Jasiorowski, Director, Animal Production and Health Division, who reviewed the programme of work of the Committee, the progress being made by the International Scheme for the Coordination of Dairy Development (ISCDD) and by the Codex Alimentarius Commission.

In his introductory statement, Dr. E. Ackermann, Chairman of the session, reminded delegates that, to achieve international standardization, it was necessary not to consider national legislation as unchangeable. To insist on including very high requirements in standards would make them unrealistic and unattainable for many countries and would delay the progress of the standards.

He also drew the attention of delegates to Article 4 of the Code of Principles dealing with imitation milk products. He recommended that they be considered by the Committee in due time and referred to a recent FAO publication by Dr. F. Winkelmann entitled "Imitation Milk and Imitation Milk Products" (with special reference to the use of protein raw materials in such products). The publication was distributed to the participants.

3. The Committee was presided over by its Chairman, Dr. E. Ackermann (Switzerland), and its two Vice-Chairmen, Mr. F. S. Anderson (United Kingdom) and Dr. T. L. Hall (New Zealand). The Joint Secretaries were Dr. F. Winkelmann and Mr. W. L. de Haas of FAO.

Election of Officers

4. The Committee unanimously elected Mr. F. S. Anderson (United Kingdom) Chairman of the Committee, to serve from the end of the 17th Session until the end of the 18th Session. The Committee also unanimously elected Dr. T. L. Hall (New Zealand) and Mr. K. P. Andersen (Denmark) to be first and second Vice-chairman, respectively, both to serve from the end of the 17th Session until the end of the 18th Session. The Committee expressed its appreciation of the outgoing Chairman of the Committee and of the two Vice-Chairmen.

Adoption of Agenda

5. The provisional agenda was adopted with some rearrangements in the order of items to be discussed. The Committee agreed to consider proposals for amendments and revisions respectively to the international individual cheese standards for Camembert and Brie, and for Cream Cheese, Herrgårdstost and Norvegia. The

Committee would also deal with questions concerning (i) the type of acceptance of standards considered under the Code of Principles, (ii) priorities for new applications for international individual cheese standards and (iii) the technological justification for the use of nitrates in cheese, under the agenda item "Miscellaneous".

ACCEPTANCES OF THE CODE OF PRINCIPLES AND ASSOCIATED STANDARDS

6. The Committee was informed of the latest position regarding government acceptances of the Code of Principles, Associated Standards and Methods of Analysis and Sampling. Seventy-one governments had accepted the Code of Principles concerning Milk and Milk Products; on an average, some 45 governments had accepted the standard methods of analysis and sampling for milk and milk products B-1 to B-5, some 16 governments the standard methods of analysis B-6 to B-8, 8 governments the standard method of analysis B-II, 9 governments the standard methods of analysis B-12, B-13 and B-14, and 5 governments the standard methods of analysis B-10 and B-15.

7. The current position on acceptances by governments of revised compositional standards for butter, butteroil, evaporated milk, sweetened condensed milk, milk powder, whey cheese, processed cheeses and cream powder was as follows:

<u>Redraft of Standard</u>	<u>Accepted by*</u>
A-1 for Butter	- 9 countries: Belgium*, Bulgaria*, Canada*, Finland, F. R. of Germany*, Kenya, Netherlands*, New Zealand*, Norway*
A-2 for Butteroil	- 5 countries: Bulgaria*, Canada, Denmark*, Netherlands*, Norway*
A-3 for Evaporated Milk	- 7 countries: Canada*, Denmark, Finland, F. R. of Germany*, Kenya, Netherlands*, Switzerland*
A-4 for Sweetened Condensed Milk	- 9 countries: Belgium*, Bulgaria*, Canada*, Finland*, R. F. of Germany*, Kenya, Netherlands*, New Zealand*, Switzerland*
A-5 for Milk Powder	- 7 countries: Bulgaria*, Denmark, F. R. of Germany*, Kenya, Netherlands, New Zealand*, Switzerland*
A-7 for Whey Cheese	- 7 countries: Bulgaria*, Canada*, Denmark, Finland, F. R. of Germany*, Netherlands*, Norway
A-8 (a) - General Standard for Process(ed) --- Cheese or --- Process(ed) Cheese	- 8 countries: Bulgaria*, Canada*, Denmark*, Finland*, Kenya, Poland*, Switzerland*, United Kingdom*
A-8 (b) - General Standard for "Process(ed) Cheese" and "Spreadable Process(ed) Cheese"	- 5 countries: Bulgaria*, Finland*, Kenya, Poland*, Switzerland*
A-8 (c) - General Standard for Process(ed) Cheese Preparations	- 4 countries: Bulgaria*, Finland*, Kenya, Poland*
A-10 for Cream Powder	- 2 countries: Bulgaria*, New Zealand*

*Country means acceptance with reservations of various kinds. Details of acceptances and remarks by governments will be published in the eighth edition of the Code of Principles concerning Milk and Milk Products.

8. The Committee noted that the former version of these compositional standards, except the new standards A-8 and A-10, had been accepted by 45 to 64 countries and supported the request made by the Secretariat that governments accept or confirm acceptance of the redrafted standards.

9. The Committee further noted the current position regarding acceptances by governments of international individual cheese standards C-1 to C-34, which is given on page 3.

10. The Committee was informed about the revision of the Acceptance Procedure for Codex Commodity Standards and Codex General Standards, which formerly provided for 'Acceptance with Minor Deviations' in addition to 'Full Acceptance' and 'Target Acceptance'. In the revised procedure, which had been adopted at the 10th Session of the Codex Alimentarius Commission in July 1974, 'Acceptance with Minor Deviations' was replaced by 'Acceptance with Specified Deviations'. The Committee noted that the decision in favour of this amendment was influenced to some extent by experience obtained from considering acceptances received from governments in respect of the milk product standards. The Codex Alimentarius Commission had also adopted a new Acceptance Procedure for Codex Maximum Limits for Pesticide Residues which, in addition to 'Full Acceptance' and 'Target Acceptance' provided for 'Limited Acceptance'. The Codex Alimentarius Commission had also agreed to the inclusion of a new step in the Procedure for the Elaboration of Codex Standards and in the Procedure for the Elaboration of Milk and Milk Products Standards, requiring, *inter alia*, the Secretariat to publish periodically notifications of acceptances received from governments with respect to each standard, including details of specified deviations. The Committee noted that forms for use by governments in making their declarations of acceptance or non-acceptance of Recommended Codex Standards had been prepared. It was hoped that these would assist governments in submitting their acceptances for standards and would facilitate the periodical publication of government acceptances. The point was made that acceptance with specified deviations should facilitate acceptances by governments. Some of the existing acceptances of milk product standards might call for reclassification but would not change the substantive effect or commitment of governments. At present, the Code of Principles only provided for one form of acceptance with specified deviations, namely deviations specifying more rigorous requirements. The Committee noted that the question of specified deviations vis-à-vis non-acceptance had been considered by the Codex Alimentarius Commission and that it had agreed that the Secretariat should prepare a paper on the question of establishing guideline criteria for drawing a line of demarcation between meaningful acceptance and non-acceptance. The majority of Members of the Commission had felt that this was probably not necessary, as governments would exercise their individual judgement in this respect. Nevertheless, the Commission had agreed that the views of governments should be sought on the following specified points, which would be considered at a session of the Codex Committee on General Principles towards the end of 1975:

- (a) whether it is important to establish a line of demarcation between acceptance with specified deviations and non-acceptance;
- (b) whether it would be desirable to establish criteria for determining whether a specified deviation would be compatible with the forms of acceptance;
- (c) whether it is practicable to establish a single set of criteria which would apply to all standards, given that foods differ widely;

- (d) whether and to what extent the draft criteria suggested by the Working Party would be suitable or what other criteria governments would propose;
- (e) whether such criteria, if established, should be intended solely to provide guidance to governments or whether the Commission should be authorized to review declarations with specified deviations, on the basis of such criteria.

DETAILS OF ACCEPTANCES OF
INTERNATIONAL INDIVIDUAL CHEESE STANDARDS

Cheese Variety		Belgium	Bulgaria	Brazil	Canada	Denmark	Finland	France	F. R. Germany	Ireland	Kenya	Malta	Netherlands	[New Zealand	Norway	Philippines	Poland	Spain	Sweden	Switzerland	Trinidad & Tobago	U.K.	U.S.A.	Number of Acceptances
C-1	Cheddar		x	x	x	x	x	x	x	x	o		x	o	x		o	o	o	x	(**)	o	x	18
C-2	Danablu				x	o	x	x	x	o			x	x	o		x	o	o	x	(**)	o		13
C-3	Danbo				x	o	x	x	x	o			x	x	o		x	x	o	x	(**)	x		14
C-4	Edam	o	x	x	x	o	x	x		o			o		o		x	o	o	x	(**)	o	x	16
C-5	Gouda	o	x	x	x	x	x	x		o			o				x	o	o	x	(**)	o	x	15
C-6	Havarti				x	o	x	x		o				x	o		x	x	o	x	x	x		11
C-7	Samsoe				x	o	x	x	x	o			x	x	o		x	x	o	x	x	x		14
C-8	Cheshire	o			x	x	x	x	x			o	x		o		o	o	o	x	(**)	o	x	15
C-9	Emmentaler		x	x	x	x	x	x				o	x	x	x		x	o	o	x	(**)	x	x	15
C-10	Gruyère			x	x	o	x	o				o	x	o	o		o	o	o	x	(**)	o	x	14
C-11	Tilsiter			x		o	x	x	x				x	x	x		x			x	x	x		11
C-12	Limburger	x		x		o	x	x	x				x	x	x		x				x	x	x	12
C-13	Saint-Paulin						x	x											o	x	x	o		6
c-14	Svecia	x				o	x	x	x				x	o					o	x	x	x		11
c-15	Provolone	x		x		x	x	x					x							x		x		10
C-16	Cottage Cheese incl. Creamed Cottage Cheese	x					x	x					o							x	(**)	x		6
C-17	Butterkäse	o				o	x	x	x				x	x	x		x	x		x	x	o		11
C-18	Coulommiers						x	o					x	o	o		x	x		x	x	o		9
C-19	Gudbrandsdals ost (whey cheese)					o	x	x					x	o	o		x	o	o	x	x			10
C-20	Harzer Käse					x	x	x	o				x	x	x		x	o	o	x	x	x		10
C-21	Herrgårdsost					o	x	x					x	o	o		o	o	o	x	x			9
C-22	Hushällsost					o	x	x					x	o	o		o	o	o	x	x			9
C-23	Norvegia					o	x	x					x	o	o		o	o	o	x	x			10
C-24	Maribo	x				o					o				x		x							5
C-25	Fynbo	x				o					o				x		x							5
C-26	Esrom					o			x				o	x	o		x							5
C-27	Romadur					o	o		o				o	x	o		x	x						8
C-28	Amsterdam					o			x				o	x	o		x							6
C-29	Leidse					o			x				o	x	o		o							6
C-30	Friese					o			x				o	x	o		o							6
C-31	Cream cheese					x	x										x							3
C-32	Blue-Veined						x										x							2
C-33	Camembert						o						x				x							3
C-34	Brie					o							x				x							3

o = acceptance

x = acceptance with certain reservations

(**) = 'target acceptance' according to the Codes

(**) and

x) = any cheese meeting the standard concerned could be freely distributed in Trinidad and Tobago.

11. The delegations of Canada and the U.S.A. wished to place on record, that they would use the Codex Acceptance Procedure for the acceptance of milk product standards.

REDRAFT OF THE GENERAL STANDARD FOR CHEESE - A-6

12. The Committee had before it the redraft of the General Standard for Cheese No. A-6, and the Draft Standard for Cheeses not having an International Individual Standard No. A-14, as contained in Appendices IV-A and IV-B respectively of the report of the 16th Session. The Committee agreed to the proposal of the Chairman to consider the relative position of the two standards in the light of the suggestion of a number of governments to merge the standards.

13. The Committee compared in detail the relative merits of leaving the General Standard A-6 in substance as in the 7th Edition of the Code, but presented in the format given in the report of the 16th Session, and continuing the elaboration of a standard for cheeses not having an international individual or group standard, with the advantages and disadvantages of merging the two standards by incorporating the list of additives and the classification for cheeses into the General Standard A-6. During the discussion, it became apparent that the most significant objection to merging the two standards was the list of food additives associated with the classification table in draft standard A-14. The Committee noted that the classification table had been proposed to limit the number of applications for the establishment of international individual cheese standards, and that the individual standards had been established because of the lack of compositional provisions in the General Standard.

14. There was a general consensus that the General Standard A-6 should cover all cheeses regardless of whether covered by an individual or group standard or by draft standard A-14 which, according to the views expressed by a number of delegates, should have a C-number ("C-100") to indicate that it belonged to the series of international standards for individual or groups of cheeses.

15. The Committee finally agreed unanimously to a proposal by the Chairman to revise the General Standard No. A-6 by:

- (a) incorporating a food additives section, linking the use of additives with types of cheese and, hence;
- (b) associating the General Standard with the classification table and certain labelling provisions (as given in Draft Standard A-14) which had been generally well- received by the Committee;

The draft text proposed for the new food additives section was as follows:

- "4.1 For cheese for which there is an international individual or group standard only those additives which are provided in the individual or group standard may be used.
- 4.2 For cheeses for which there is no international individual or group standard no international additive may be used except those which are provided in the/individual or group standards for the type of cheese according to the firmness of the cheese and any other appropriate characteristic."

Scope

16. The Committee then discussed proposals for amendments of the scope section and agreed to revise this section to read:

"This standard applies to all products in conformity with the definition of cheese in paragraph 2 of this standard, including those individual varieties of cheese for which individual standards have been elaborated. Subject to the provisions of this standard, standards for individual varieties of cheese, or groups of varieties of cheese may contain provisions which are more specific than or different to those in this standard and in such cases those more specific or different provisions shall apply to the individual variety or groups of varieties of cheese."

Definition

17. With regard to the definition, the Committee agreed that it was desirable to amend the definition to cover new technological developments such as ultrafiltration and reverse osmosis in cheesemaking. The Committee confirmed its decisions taken at previous sessions that its standards should not hinder technological progress and recalled that the original Procedure for the Elaboration of International Individual Cheese Standards contained a footnote which stated that the method of manufacture should be as outlined in the standard concerned or any other method which would result in the same product.

18. The Committee agreed to reword the definition and asked that governments be requested to comment in particular on the amended version. The Committee also gratefully acknowledged an offer by the IDF to prepare an amended definition well in advance of the next session of the Committee or to comment on the amended version. The amended definition reads:

"2.1 Cheese is the fresh or matured solid or semi-solid product obtained by coagulation and removal of whey or other recognized processing of milk, cream, skimmed or partly skimmed milk, buttermilk with or without the addition of whey or other materials obtained from milk."

Labelling (See paras 63-72 of this Report)

Status of the Standard

19. The Secretariat was requested to prepare a revised draft of the General Standard for Cheese at Step 5 of the Procedure, which is contained in Appendix II to this report.

DRAFT INTERNATIONAL STANDARD FOR HARD GRATING CHEESE

20. The Committee reconsidered the above-mentioned standard, as contained in Appendix VI to the Report of the 16th Session, at Step 3 of the Procedure. Government comments had been collated in document MDS 75/6. The Chairman reminded the Committee that the present document was the result of a joint effort by the delegations of the United States and Italy to cover in a group standard all hard grating cheeses.

Title

21. The Committee agreed that the products covered by the standard fell into the category of extra hard cheeses, in the table of classification of cheese according to firmness. The title was therefore amended to include the word "extra". Appropriate amendments were made throughout the text of the standard.

Ingredients

22. The Committee noted that hard grating cheese could be made from milk of cows, goats or sheep but could also be made from mixtures of these, and amended provision 3.1 to reflect this possibility.

Optional Additions

23. Several delegations stated that, in their view, a number of the optional additions listed were not necessary in the manufacture of hard grating cheese. The Committee considered several proposals for the deletion of certain of the listed additions. It was decided to "delete the reference to "harmless food colouring" and to list instead chlorophylls, including copper chlorophyll (C. I 75810)

24. A number of delegations expressed the opinion that the use of benzoyl peroxide for bleaching the milk should not be allowed. As this practice appeared to exist, however, in some countries, it was agreed to retain the provision and to include the maximum level of use in the list of optional additions rather than under the method of manufacture, and further to limit the amount of the carrier salts to not more than six times the weight of the benzoyl peroxide.

25. It was agreed that the maximum level of sorbic acid could be reduced from 3,000 mg/kg to 1,000 mg/kg.

Principal characteristics of the cheese ready for consumption

26. It was decided to delete the requirement that holes when present should be "uniformly distributed throughout the interior of the cheese".

Method of Manufacture

27. To avoid giving the impression that the addition of lactic acid starter was a mandatory part of the method of coagulating, the word "possible" was inserted. With regard to the maturation procedure, it was agreed that the cheeses need not be held in a "cold ventilated" room but that it would suffice to state that the room should be temperature controlled.

Sampling and Analysis

28. It was agreed to list a method (under elaboration) for the determination of dry matter.

Marking and Labelling

29. The provision for the use of "coined" or "fanciful" names for the product was brought into line with the wording used in the General Standard for the Labelling of Prepackaged Foods.

Status of the Standard

30. The Committee agreed that the standard as amended could be advanced to Step 5 of the Procedure and sent to governments for further comments. The Standard for Extra Hard Grating Cheese is contained in Appendix III to this report.

DRAFT STANDARD FOR EDIBLE ACID CASEIN (A-12) AND DRAFT STANDARD FOR EDIBLE CASEINATE (A-13)

31. The Committee had before it at Step 4 of the Procedure the above standards as contained in Appendices VII-A and VII-B to the Report of the 16th Session. The standards were considered in the light of government comments received (MDS 75/8(a) + (b)).

Definition

32. Following a proposal to allow buttermilk as well as skimmed milk to be used as raw materials for edible acid casein and a suggestion to specify that the product should

be subjected to an appropriate heat treatment and noting that the acids to be used would be listed in the Food Additives Section, the Committee amended the definition as follows:

"Edible Acid Casein is the product obtained by separating, washing and drying the acid precipitated coagulum of skimmed milk or buttermilk, and which has been subjected to an appropriate heat treatment".

33. With regard to the definition for edible caseinates it was pointed out that new developments in technology no longer limited the manufacturing process to "drying aqueous solutions". To allow for new methods to be used the specific and restrictive clause was deleted from the definition and similar amendments as for the definition for Edible Acid Casein were made:

"Edible caseinate is the dry product obtained by combining edible casein or fresh edible casein curd with food grade neutralizing agents and which has been subjected to an appropriate heat treatment".

Essential Composition and Quality Factors

34. Several delegations proposed to set the level for the minimum protein content of the two products above the 90% presently contained in the standards; values up to 95% were suggested. The Committee decided, however, to retain the present figure bearing in mind that the standard under consideration was a minimum standard.

35. The delegations of Denmark and the Netherlands stated that the minimum level of 90% was unrealistic as the total of the remaining dry matter in the product could not exceed 4-5%.

36. For the maximum moisture content a level of 10% instead of the present 12% was proposed. The Committee agreed not to make a change, however, again taking into account that the standard was a minimum standard.

37. The maximum milkfat content in the dry matter of edible acid casein was increased from 2.0% to 2.25% which corresponded with the level proposed by IDF.

38. The Committee decided to specify that the maximum free acid level of edible acid casein should be determined by extraction at 20°C and that it should be expressed as ml 0.1 N NaOH/g.

39. The maximum ash level in edible casein was increased from 2.2% to 2.5% in view of the fact that the phosphorous already contributes 2% as phosphorus pentoxide to the ash.

40. In view of the acceptance of the proposal also to allow the use of butter milk as an alternate raw material for the production of edible acid casein, the delegation of the Netherlands drew attention to the fact that cream used for the manufacture of butter would normally be pasteurized at such temperatures that an appreciable amount of serum protein could be heat denatured. When using buttermilk as a raw material for the manufacture of casein the heat denatured serum protein might form a co-precipitate in addition to casein.

41. Since the heat treatment of the raw material in general could affect the casein content of the products under consideration, the delegation of the Netherlands held the view that the Committee should consider at its next session the desirability of including a minimum casein content calculated *on* the protein content of the product.

42. With regard to edible caseinates the Committee agreed to adopt the figures proposed by IDF with the proviso that at its next session it would consider the desirability of distinguishing in the pH values between sodium and calcium caseinates. The delegation of Denmark proposed pH value figures of 6.4 - 6.6 for the former and max. 7.5 for the latter.

Contaminants

43. Several delegations questioned the need for an upper limit for lead as high as 2 mg/kg. The delegation of the USA pointed out that on an arithmetical basis and related to milk the level seemed to be correct. The Committee agreed to request governments to comment on the limit. It was further decided to delete the reference to the maximum arsenic content.

44. For roller dried edible caseinates the maximum iron content was set at 90 mg/kg.

Food Additives

45. The Committee agreed to list lactic acid and hydrochloric, sulphuric and phosphoric acids for use in the manufacture of edible acid casein. The maximum ash content set for the product was thought to self limit the use of the acids.

46. Concerning edible caseinates the use of sodium, potassium, calcium and ammonium hydroxide was accepted.

Labelling

47. The Committee noted that edible acid casein would normally not be sold as such to the consumer but would be used as a raw material for further processing. It considered therefore that the reference in the introductory sentence of this section to the General Standard for the Labelling of Prepackaged Foods was not quite appropriate and should be deleted. It was agreed that in the light of the discussions of the Codex Committee on Food Labelling on the labelling of bulk containers the section would be reviewed at the next session.

Status of the Standards

48. The Committee agreed that *the* standards as amended should be sent to governments for comments at Step 5 of the Procedure. The standards are contained in Appendices IV and V to this Report.

DRAFT STANDARD FOR CREAM FOR DIRECT CONSUMPTION - A-9

49. The Committee had before it the above standard as contained in Appendix VI to the Report of the 15th Session and government comments thereon, collated in document MDS 75/7. At its previous session, the Committee, owing to lack of time, had not been able to discuss the standard (para 137, Report of the 16th Session).

Scope

50. The delegation of Switzerland, in its written observations, had proposed to list in the scope section the various types of cream covered by the standard, and to mention further the various methods of heat treatment which could be used and also the possibility of packaging the product in aerosol containers. The Committee agreed with this amendment.

Definitions

51. The delegation of Switzerland had also suggested in their written observations that this section be amended by making a distinction between raw materials, the treatment and the form of packaging, in addition to defining the various types of cream. This proposal was also accepted by the Committee and the definitions for the various types of cream were modified accordingly,

52. At the suggestion of the delegation of Spain, the definitions for pasteurized cream and ultra heat-treated cream were brought into line with the definition for sterilized cream.

Essential Composition and Quality Factors

53. In view of the description of the various heat treatments to which different products could be subjected, the provision for "Sterilized Cream" (3.3) was deleted.

Minimum Milk Fat Content

54. Some delegations expressed a preference for retention of 28% as a minimum milk fat level for whipping and whipped cream. Other delegations were of the opinion that the minimum should be 30% and a significant number of delegations wished to have 35% specified. The Committee discussed the issue at length and it was resolved that, as a compromise, 28% should be the lower limit with, however, the inclusion of a further provision for "heavy whipping and whipped cream" with a minimum milk fat content of 35%. The delegation of Australia asked that its position be reserved and indicated that Australia would favour a 35% level for whipped and whipping cream.

55. The Committee agreed upon a minimum milk fat content of 45% for double cream.

Optional Additions

56. It was pointed out that vanilla which was listed under optional additions should be included in the food additives section. An amendment was therefore made.

Food Additives

57. The introductory sentence to this section, which did not allow for the use of food additives in fresh and pasteurized cream, was not considered suitable because fresh cream was not mentioned elsewhere in the standard, and vanillin and propellants could be added to pasteurized cream. This sentence was changed to read as follows: "Pasteurized creams should not contain any additives apart from vanillin, nitrous oxide and carbon dioxide."* The Committee agreed to include in the list of additives lecithin, xanthan gum and caseinate (maximum level 0.1%) and to delete sucrate of lime. The maximum level of use suggested for the additives listed under 4.2 singly or in combination, was 0.5%. It was further agreed that, in addition to nitrous oxide, carbon dioxide should be listed as a harmless gas for use in whipped cream. The Secretariat was requested to revise the section in line with the terminology adopted by the Codex Committee on Food Additives.

* Note by the Secretariat: The relevant section was revised editorially subsequent to the adoption of the Report.

Name of the Food

58. The provision for the name of the product was revised to bring it into line with the amendments made in Section 3 - Essential Composition and Quality Factors. It was not considered necessary for vanillin and sugar to be declared as part of the name of the

product. A declaration in association with the name of the product was considered sufficient.

59. The delegation of the U.S.A., supported by the delegation of France, proposed to make the declaration of the milk fat percentage on the label optional. A large number of delegations considered this information to be essential, particularly in view of the great variety of products on the market. The Committee decided to leave section 5.1.5 unchanged.

List of Ingredients

60. The present provisions were replaced by the wording used in the General Standard for the Labelling of Prepackaged Foods: "A complete list of ingredients shall be declared on the label in descending order of proportion".

Status of the Standard

61. The delegation of Australia proposed to the Committee that the standard should be advanced to Step 7, omitting Steps 5 and 6. The delegation of Australia explained that, since the Committee had reached agreement after compromise on the controversial issues, it considered the standard to be in completed form. The Australian delegation also referred to the remarks made by the Chairman at the opening of the session, when he had reminded the Committee of the need to consider its priorities and had pointed out that an appropriate priority should be given to the work of this Committee in relation to the efforts of FAO associated with world food shortages. The Committee considered this proposal but decided not to omit any steps, since several delegations felt that governments should be afforded an opportunity to examine a revised draft.

62. The standard was advanced to Step 5, to be sent out to governments for further comments. The revised document is contained in Appendix VI to this report.

LABELLING PROVISIONS FOR RECOMBINED AND RECONSTITUTED MILK PRODUCTS

63. The Committee had before it document MDS 75/9 containing the comments received from governments on the labelling provisions drafted by this Secretariat. The Committee adopted a proposal by the Chairman to consider the following three questions:

- (i) how to label recombined and reconstituted products;
- (ii) which of the recombined and reconstituted milk products covered by standards associated with the Code of Principles should be labelled as such; and
- (iii) which milk products should be exempted from being labelled as recombined or reconstituted products.

64. The Committee considered (i) - the draft labelling provisions as contained in paragraph 1 of MDS 75/9 and agreed that all the three versions given were useful:

- (a) "Recombined [Name of the food]"; or
"[Name of the food] made by recombining and ..."; or
"[Name of the food] made from and";
the blanks being filled with the names of the two or more milk products used for the recombination.
- (b) "Reconstituted [Name of the food]"; or
"[Name of the food] made by reconstituting"; or
"[Name of the food] made from";

the blank being filled with the name of the milk product used for the reconstitution.

65. The Committee then considered (ii) - the question which recombined and reconstituted milk products should be labelled as such. In the discussion, the main points raised some of which were controversial were the following:

- labelling a product as reconstituted or recombined was only necessary in the case of products which differed physically, chemically and organoleptically from products made directly from milk;
- labelling a product as reconstituted or recombined was necessary, especially if such products were indistinguishable from products made directly from milk, both to inform the consumer and to prevent unfair practices in national and international trade;
- mandatory labelling of recombined and reconstituted products should be left to the discretion of national legislation;
- labelling of recombined and reconstituted products should be considered on a product by product basis;
- all products to which Decision No. 5 applied should be labelled as such.

66. The Committee noted a statement by the Secretariat that the issue of mandatory or non-mandatory labelling had arisen also in other Codex Committees and that the Codex Committee on Food Labelling had gone on record as not being in favour of provisions which left labelling matters to national discretion. The Food Labelling Committee would therefore endorse only mandatory labelling provisions. This was in line with the policy of FAO and WHO in assisting developing countries with food control projects and was designed to protect the consumer and the honest trader.

67. The delegation of the Netherlands wished to place on record that they saw no adequate reasons justifying mandatory label declaration for reconstituted or recombined products. They emphasized that, by using first class raw materials and appropriate production techniques, the products obtained by reconstitution and/or recombination were not distinguishable from the products obtained directly from first class liquid milk. For this reason, the delegation of the Netherlands felt that it was not in the interest of the consumer to make the labelling of reconstituted and/or recombined products in respect of the manufacturing process mandatory. The Committee should ensure adequate end-product specifications, preventing manufacturers from using raw materials of doubtful quality.

68. The Committee agreed that, in principle, consumers had the right to be informed if the product was a recombined or reconstituted milk product and therefore decided that such products should be so labelled.

69. The Committee also considered (iii) - the question whether there could be special exemption from the general rule of mandatory labelling. The Committee recalled its agreement that Decision No. 5 was applicable to all milk product standards associated with the Code of Principles, with the exception of the products covered by Standard No. A-2 for (i) Butteroil and (ii) Anhydrous Butteroil and Anhydrous Milkfat. The Committee further recalled that butter (Standard No. A-1) could be made by recombining milk constituents as well as from recombined and/or reconstituted milk, and that certain cheeses (General Standard No. A-6) could be made from recombined and/or reconstituted milk.

70. The delegation of the United Kingdom pointed out that governments would need to give a specific response in respect of recombined and reconstituted products when accepting the milk products standards to which Decision No. 5 was applicable. It was further stressed that the Secretariat when reissuing the various standards as part of the 8th edition of the Code should make an appropriate reference to Decision No. 5 - possibly in the form of a footnote to each standard to which it applied - and also include in the standards the appropriate labelling provisions as cited in paras 64 and 72 stemming from the application of Decision No. 5.

The delegation of the Netherlands reserved its position.

71. The Committee also considered the possibility of exempting from the general rule of mandatory labelling recombined and reconstituted products used as ingredients in other products. The Committee noted that the only product of concern to the Committee in this respect was Cheese. As regards the General Standard A-6 for Cheese, the delegation of Switzerland expressed its concern that the incorporation of provisions in the standard concerning declaration of reconstitution and recombination would in this connection result in unclear obligations for countries accepting the international individual cheese standards. Switzerland also thought that the provision under Standard A-6 might imply a permission to use reconstituted or recombined raw materials in any unstandardized cheese and considered that this would be inappropriate in some cases. The delegation of Australia expressed the view that such a provision under the A-6 standard should not be interpreted as permitting the use of reconstituted or recombined materials in any cheese but merely to require declaration in the event that they were used.,

72. The Committee considered the labelling provision for cheese as drafted by the Secretariat (1) (MDS 75/9, para 1) and proposals for amendments by the delegation of the United States (2) and the delegation of Australia (3) respectively. It was decided to send the draft texts given below to governments for comments and consideration, together with the redraft of the General Standard for Cheese A-6.

- (1) "Cheese conforming with this standard and made from recombined or reconstituted milk may be designated [name of the cheese] provided that this fact is declared as follows: '[name of the cheese] made from recombined milk' or '[name of the cheese] made from reconstituted milk', as appropriate."
- (2) "Cheese conforming with this standard and made from recombined or reconstituted milk may be designated [name of the cheese]/provided that this fact is declared in the ingredient statement as follows: 'made from recombined milk' or 'made from reconstituted milk', as appropriate."
- (3) "Cheese conforming with this standard and made from recombined or reconstituted milk may be designated [name of the cheese], provided that this fact is prominently declared on the label, as follows: "made from recombined milk' or 'made from reconstituted milk', as appropriate."

DRAFT STANDARD FOR YOGHURT (YOGURT) AND SWEETENED YOGHURT (SWEETENED YOGURT) (A-11(a))

73. The Committee had before it the above Standard as contained in Appendix III-A to the Report of the 16th Session at Step 6 of the Procedure and government comments received thereon (MDS 75/4(a)).

Definitions

74. The Committee discussed again the desirability of allowing the use of suitable lactic acid producing cultures other than *Lactobacillus bulgaricus* and *Streptococcus thermophilus*.

75. It was pointed out that the microorganism originally described by Metchnikoff differs in some respects from the *Lactobacillus bulgaricus* in modern classifications i.e. in its higher acid producing capability, enzyme production, etc., and may be at this time classified as *Lactobacillus jughurti*. This indicated the difficulties which could arise from a restriction of the microorganisms to the two named cultures when modern techniques and microbiological definitions are becoming increasingly specific, and it could result in desirable cultural characteristics no longer being available to the yoghurt producer. The delegation of Bulgaria disagreed with this point of view.

76. It was agreed however that it would not be necessary to refer to the other lactic acid producing cultures in the definition by introducing a reference in the Optional Additions (2.5) in the Essential Composition and Quality Factors section. The definition was amended accordingly.

Yoghurts

77. It was pointed out that the minimum compositional requirements listed in the Standard corresponded with fresh milk but that in the process of fermentation the solids non-fat (S.N.F.) content was slightly reduced. The Committee agreed that the minimum S.N.F. content for all three categories should be 8.2%. The delegations of Bulgaria, France and Italy reserved their positions with regard to the new figure. They wished to retain the 8.5% S.N.F.

Essential Raw Materials

78. It was agreed that the milk and milk products covered by this provision should be pasteurized.

Optional Additions

79. The Committee decided to specify that the various products listed should be manufactured from pasteurized milk. It was further agreed that sugars only could be added to sweetened yoghurt.

The Name of the Food

80. The Committee agreed that for the product with less than 3% milkfat but with more than 0.5% milkfat accompanying the name of the food there shall be a statement on the actual milkfat content to be declared in multiples of 0.5% closest to the actual milkfat content of the product.

81. The Secretariat was requested to revise the remaining provisions of the labelling section in line with the recommendations of the Labelling Committee as contained in the General Standard for the Labelling of Prepackaged Foods.

Status of the Standard

82. The Committee agreed that the Standard as amended could be advanced to Step 7 of the Procedure and be sent to governments for acceptance. The revised Standard is contained in Appendix VII.

DRAFT STANDARD FOR FLAVOURED YOGHURT (FLAVOURED YOGURT) (A-11(b))

83. The Committee had before it the above standard as contained in Appendix III-B to the Report of the 16th Session, at Step 5 of the Procedure and government comments received thereon (MDS 75/4(b)).

Definitions

84. The Committee discussed at great length the feasibility of covering in one standard a flavoured yoghurt based on the product with viable and abundant micro-organisms and the product heat-treated after fermentation. It was decided to include a definition for the latter product to read "Flavoured X yoghurt is yoghurt conforming with the product defined in 1.1 and heat-treated after fermentation." Some delegations questioned the need to provide for the heat-treated product in the standard as they assumed that the international trade in the product was rather limited. The delegation of France supported by Brazil, Bulgaria, Italy, Spain and Switzerland objected to the inclusion of the provision because in its view it was not the same product that was involved. Other delegations held the view that, even though at present the international trade in the heat-treated product might be small, they foresaw that the commercial importance of this product was likely to increase rapidly. Governments were requested to provide the Secretariat with production and consumption figures of flavour and flavoured heat-treated products and information regarding the consumer's attitude towards these products. Governments were also requested to propose suitable terminology for "X" in heat-treated yogurt.

Food Colours

85. The Committee agreed to include in the standard a list of food colours contained in the written comments of the United Kingdom, with the addition of F. D. and C. Blue No. 1 (C.I. 42090) and juices extracted from natural fruit and vegetable sources. Governments were requested to comment on the use of these colours.

86. The delegation of Switzerland, referring to the list of additives and the suggestion that heat-treatment should be allowed, reiterated its view that these products were not "Yoghurt". The Swiss delegation reminded the Committee that in Switzerland yoghurt was a "natural" product and that, if colours were to be used, they should be limited to natural substances. The delegation of Denmark proposed to limit the use of additives to heat-treated products only. The delegation of the United Kingdom pointed out that, although flavoured yoghurts in the United Kingdom were allowed to contain certain additives, this did not mean that all such products were heat-treated after fermentation.

Stabilizers

87. The Committee agreed to list starches in addition to modified starches and to reduce the maximum level to 10 g/kg. Several delegations indicated certain stabilizers which in their opinion, should not be included in the list. The substances mentioned were;

Furcellaran	Oat gum
Xanthan gum	Sodium carboxymethylcellulose (cellulose gum)
Guar gum	Propylene glycol alginate

The delegation of France supported by the delegations of Bulgaria and Italy objected to the addition of stabilizers. It was agreed that Governments should be asked to comment

on those additives which had not been endorsed by the Codex Committee on Food Additives.

Preservatives

88. In view of remarks made by the Codex Committee on Food Additives (ALINORM 74/12, para 73), the Committee decided to amend the title of this provision to "Preservatives in Flavouring Substances" in order to make clear that preservatives found in the end-product were not added as such but originated from the addition of fruit(s) and were therefore to be considered as carry-over substances. The Committee agreed to revise the provision to read: "Sorbic acid, and its sodium, potassium and calcium salts, sulphur dioxide, benzoic acid in flavours at levels permitted in individual Codex standards for fruits and fruit based products where such standards exist or, in the absence of a Codex standard, a maximum of 50 mg/kg in the final product".

The Name of the Food

89. The Committee noted that the labelling provisions of the standard had already been endorsed. It was agreed however to add under the name of the food a provision reading "For flavoured yoghurt which has been heat-treated after fermentation the designation shall include X or any other suitable qualifying description."

Status of the Standard

90. In view of the large number of amendments made, the Committee agreed to retain the Standard at Step 5 for a further round of government comments. The revised document is contained in Appendix VIII to the report of this session.

HYGIENIC REQUIREMENTS FOR MILK AND MILK PRODUCTS

91. The representative of WHO reviewed the recent activities of WHO, FAO and other international bodies concerning hygiene requirements for milk and milk products with particular reference to the inclusion of microbiological end-product specifications in codes and standards, prepared or presently under elaboration within the framework of the FAO/WHO Food Standards Programme. The need for specifications of this kind had been recently stressed by a number of international bodies, including the World Health Assembly, the Executive Board of WHO and the UN Conference on Human Environment, held in Stockholm in 1972.

92. The Codex Committee on Food Hygiene had, during the last couple of years, intensified its work on microbiological specifications. It had recognized the controversial nature of microbiological specifications, including aspects on sampling plans, analytical methods and microbiological limits, which called for advice from an independent expert body prior to consideration in the intergovernmental framework of the Codex Alimentarius Commission.

93. The first Expert Consultation to fulfil this need was convened with support from the United Nations Environment Programme as a joint activity of WHO and FAO. It dealt with foods in international trade which could represent microbiological hazards, with related microbes and toxins, methods of sampling and examination and with microbiological limits for acceptance of foods.

94. The Consultation considered that there would be an increasing demand for international microbiological specifications for foods and that such specifications could preferably be elaborated under the auspices of the Codex Committee on Food Hygiene, in consultation with the appropriate Codex Commodity Committees.

95. The Consultation considered that bodies with international activities in this field, such as ISO, ICMS F (International Commission for Microbiological Specifications for Foods), AOAC and IDF, should maintain the closest possible collaboration in developing internationally acceptable microbiological specifications for foods. Proposals for such specifications would be considered by future expert consultations, which would form a continuous mechanism for supporting, by expert advice, the development and inclusion of microbiological specifications in codes and standards where appropriate. 96. The most important recommendation of the first Consultation was to propose microbiological specifications for inclusion in the Code of Hygienic Practice for Egg Products. This recommendation contained detailed sampling plans, methods of analysis and microbiological limits with respect to aerobic plate count, coliform count, and the presence of salmonellae to be submitted to the Codex Committee on Food Hygiene for incorporation in the code in question.

97. In his introduction, the Chairman pointed out that according to its terms of reference "The Committee would be competent to consider and elaborate all codes and standards concerning milk and milk products, and pass them, as appropriate, through all the steps of the Procedure for the Elaboration of International Standards for Milk Products", and also that "Those provisions of standards formulated by the Committee of Government Experts which relate to additives, labelling and hygiene would be subject to the procedure for endorsement by the appropriate Codex General Subject Committees"

98. This meant that, at an appropriate time, the question of hygiene requirements would need to be considered by the Committee for each dairy product for which a standard had been worked out. The Committee had dealt for the first time with the problem of hygiene requirements at its 16th session. The comments received from governments indicated the necessity of amending the standards already existing if the principle of hygiene requirements were accepted.

99. The Chairman further pointed out that the Committee should "... give first priority to the criteria of consumer protection from the point of view of health and fraudulent practices". The problem was, however, how the consumer could be protected . who would not be able to check whether a product complied in this respect. This task could only be undertaken by the official food control services. The Chairman held the view that the Committee could commence work on this issue as soon as appropriate methods were available on a standard by standard basis.

100. The delegation of the Netherlands pointed out that in its opinion in the interest of the consumer especially in the importing countries priority should be given to end product specifications rather than to codes of hygienic practice which were merely guidelines.

101. During the discussions which followed, the delegation of Australia offered to prepare a draft code of practice for dried milk, which would provide a basis for future work in the elaboration of codes of practice. It was proposed that the draft would take full account of the relevant IDF code for the manufacture of milk powder and the Recommended International Code of Practice - General Principles of Food Hygiene, and would be presented in the Codex format.

102. The delegation of the United Kingdom requested that the work which would be undertaken by Australia include the end-product specifications which manufacturers should employ in quality control within the industry. The U.K. delegation further expressed the opinion that this was a matter to which priority should be given. The

delegation of the U.S.A. considered that the work should be confined to the critical points necessary to "give a safe end-product to ensure the adequate protection of the consumer.

103. The Committee agreed that the code to be prepared by the delegation of Australia would consist of recommendations to governments and industry, upon the basis of which adequate protection of the consumer could be achieved. The findings of the delegation of Australia related to end product specifications used in industry for quality control should be included.

104. IDF was requested to present as soon as possible a summary status of its work on hygienic practices, which Australia could take into consideration in the preparation of the draft code of hygienic practice for dried milk.

105. The delegation of the Netherlands proposed that, for the future, the IDF present its codes of practice, insofar as possible, in the Codex format. This delegation proposed also to request IDF to present for discussion at the next meeting a working paper dealing with the question whether codes of hygienic practice or end-product specifications or both should be given priority. The representative of IDF informed the Committee that at present work was in progress on:

- (i) a code of practice for hygienic production of milk.
- (ii) a general code of hygienic practice for the dairy industry.
- (iii) hygienic requirements in standards of identity for dairy products.

The representative of the IDF reconfirmed the willingness of his organization to consider in the future any appropriate request which the Committee might wish to make.

106. The delegation of Australia proposed that, in view of the diversity of activities which were relevant to this Committee's work on milk hygiene, the discussions which had taken place on the hygiene aspects of its work programme be brought to the attention of the Codex Alimentarius Commission for suggestions and guidance to enable the Committee to expedite its work on milk hygiene, through the collection of data and by way of co-ordination of the activities of the various bodies concerned.

107. The Committee noted that the compilation of recommendations under codes of practice might need separate consideration from that involved in the elaboration of end-product specifications appropriate to codes of practice and commodity standards. The latter exercise was one which the Committee could consider in the light of developments within those expert bodies which were currently considering microbiological specifications" for food products and microbiological methodology.

108. The Committee agreed with the proposal of the delegation of the U.S.A. that work in the field of microbiological end-product specifications should proceed on the basis of need and demonstrated health hazards, which should be consistent with the availability of expert recommendations on microbiological standards and methodology. It was agreed that this approach should guide the Committee in its future work in this field and this procedure would be drawn to the attention of the next session of the Codex Alimentarius Commission.

DATE AND PLACE OF THE NEXT SESSION

109. The Committee noted that the next session was planned to take place in the autumn of 1976. The delegation of Malta, on behalf of its Government, invited the Committee to hold its next session in Malta. The Chairman thanked the delegation of

Malta on behalf of the Committee for the kind offer which would have to be considered by the Secretariat in conjunction with the Government of Malta in view of the administrative implications involved in holding the meeting outside Rome.

IDF/ISO/AOAC COOPERATION IN THE FIELD OF METHODS OF SAMPLING AND ANALYSIS

110. The Committee took note of the report of the representatives of IDF, ISO and AOAC, contained in Appendix IX to this report, which was presented by the representative of IDF, who expressed his appreciation for excellent cooperation with ISO and AOAC. The Committee also noted that, in accordance with its request earlier in the meeting, the elaboration of a reference method for the determination of moisture content in cheese would be given priority.

MISCELLANEOUS

Amendments and Proposals for Revision of Standards

111. The Committee agreed that the following amendments be made in the standards:

- C-33 Camembert: the maximum moisture content for "Camembert 30% FDM" should be 62%, not 56%.
- C-34 Brie: a footnote concerning heat-treated Brie should be added in accordance with the standard for Camembert.

The Committee noted the proposals of the Governments of Sweden and Norway to revise standards C-21 - Herrgårdssost and C-23 - Norvegia, respectively, as indicated in MDS 75/Misc. The Committee further noted a proposal by the Government of Switzerland to revise the standard for cream cheese and agreed to consider these proposals at the next session. The Committee also agreed to consider the proposal of the Government of the Federal Republic of Germany to revise the General Standard for Processed Cheese at its next session.

New Applications for Cheese Standards

112. The Committee noted the application of the New Zealand Government for an international individual standard for Egmont cheese. The Committee recalled the decision made at its last session that the principles for the establishment of international individual cheese standards should be reconsidered before work on the elaboration of further individual cheese standards was commenced. It was agreed that the position would be reviewed according to the progress made with the revised draft General Standard for Cheese A-6.

Nitrates in Cheese

113. Following a request for information by the delegation of Denmark, the Committee noted that research work was continuing on this subject and it would be some time before any final conclusion could be reached.

Future Work

114. It was noted that work would need to continue on the following draft standards at Step 5:

- A-9 Cream for direct consumption
- A-6 Cheese
- C-35 Extra-Hard Grating Cheese

A-11(b) Flavoured Yoghurt

A-12 Edible Acid Casein

A-13 Edible Caseinates

115. In addition, it was agreed that acceptance procedures for milk product standards (including acceptances for revised standards), products covered by Article 4 of the Code of Principles, and hygienic requirements for milk and milk products, would need to be included on the agenda for the next session. The Secretariat undertook to prepare a working paper on the acceptance procedure in advance of the next meeting.

Late Comments

116. Comments from the governments of Argentina, Bulgaria, Canada and Turkey were received too late for distribution to participants at the Session.

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LISTE DES PARTICIPANTS
LISTA DE PARTICIPANTES

* The Heads of Delegations are listed first; Alternates, Advisers and Consultants are listed in alphabetical order.
Les chefs de délégations figurent en tête; les suppléants, conseillers, consultants sont énumérés par ordre alphabétique.
Figurant en primer lugar los Jefes de las delegaciones; los Suplentes, Asesores y Consultores aparecen por orden alfabético.

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GENERAL STANDARD FOR CHEESE

1. SCOPE

This standard applies to all products in conformity with the definition of cheese in paragraph 2 of this standard, including those individual varieties of cheese for which individual standards have been elaborated. Subject to the provisions of this standard, standards for individual varieties of cheese, or groups of varieties of cheese may contain provisions which are more specific than or different to those in this standard and in such cases those more specific or different provisions shall apply to the individual variety or groups of varieties of cheese.

2. DEFINITIONS

2.1 Cheese is the fresh or matured solid or semi-solid product obtained by coagulation and removal of whey or other recognized processing of milk, cream, skimmed or partly skimmed milk, buttermilk with or without the addition of whey or other materials obtained from milk.

2.2 A milk coagulating enzyme preparation suitable for cheesemaking is a product which is not harmful to the health of the consumer and with the aid of which, either singly or in combination with calf rennet, cheese can be manufactured which has all the characteristics of the type of cheese concerned.

3. ADDITIONS

The following substances may be added, provided that such substances are not intended to take the place of any milk constituent:

- natural flavouring substances not derived from milk such as spices, in such quantity that they can be considered only as flavouring substances, provided that the cheese remains the major constituent and that the addition is declared in the designation of the product in accordance with paragraph 5.5 unless the presence of spices is a traditional characteristic of the cheese.

4. ADDITIVES

4.1 For cheese for which there is an international individual or group standard only those additives which are provided in the individual or group standard may be used.

4.2 For cheeses for which there is no international individual or group standard no additive may be used except those which are provided in the international individual or group standards for the type of cheese according to the firmness of the cheese and any other appropriate characteristic (see Annex).

5. LABELLING

In addition to sections 1, 2, 4 and 6 of the General Standard for the Labelling of Prepackaged Food (ref. No. CAC/RS 1-1969), the following specific provisions

apply except where an international individual cheese standard or group standard provides otherwise.

5.1 The Name of the Food (see also para 72 of the Report)

5.1.1 All products designated cheese, or with the name of a variety of cheese, must conform to this standard or, in the case of individual standards or groups of cheeses, with this standard as modified by the standard for the individual cheese or groups of cheeses.

5.1.2 The original cheese, or where that is not possible, the original pack or prepared consumer pack shall be marked with:

- (a) the name of the variety of the cheese;
- (b) the minimum fat content in the dry matter expressed as percentage by mass.

The minimum fat content need not be declared in case the cheese complies:

- (i) with an international standard fixing minimum fat and maximum moisture contents, adopted under the Code of Principles;
- (ii) with the national legislation in the country of sale defining its composition.

5.1.3 The designation of "cheese" and names designating a variety of cheese or group of cheeses may be accompanied by an appropriate designation in accordance with the classification of cheese in the Appendix to this standard.

5.1.4 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.

5.1.5 An indication shall be given of the addition of spices or other natural flavouring substances except in the case of cheeses in which the presence of these substances is a traditional characteristic. For example, cheese flavoured with celery should carry as part of the name the statement "Celery Flavour".

5.2 Name and address

In the case of cheeses for export the original cheese or where not possible, the original pack (or prepared consumer pack) shall be marked with the name of the manufacturer or exporter in plain or code.

5.3 Country of manufacture

5.3.1 In the case of cheeses for export the original cheese, or where not possible, the original pack or prepared consumer pack shall be marked with the name of the producing country.

5.3.2 In case of cheeses sold in the home market and designated by the name of a variety not originating in the producing country, the original cheese, or where not possible, the original pack or prepared consumer pack shall be marked with the name or other clear indication of the producing country Such as a clear statement of the full address of the manufacture or the name of the well-recognized state, region or province of the producing country.

5.4 Prepacked cheese

Where cheese which is in cut or sliced form and ready for consumption has been packed out of sight of the consumer and is for sale, the following additional information shall appear on the pack of the prepacked cheese, except where the prepacked cheese is intended for manufacturing purposes:

The name and address of the prepacker, or of the manufacturer, or the importer, or of the seller of the prepacked cheese.

6. Methods of sampling and analysis

6.1 Sampling: according to FAO/WHO Standard B-1 "Sampling Methods for Milk and Milk Products", paragraphs 2 and 7.

6.2 Fat content: according to FAO/WHO Standard B-3 "Determination of the Fat Content of Cheese and Processed Cheese Products".

ANNEX

TERMINOLOGY FOR THE CLASSIFICATION OF CHEESES

1. Definitions

1.1 "Cured or ripened cheese" is cheese which is not ready for consumption shortly after manufacture but which must "be held for suck time, at suck temperature, and under suck other conditions as will bring about the necessary characteristic physical and chemical changes throughout the interior of the cheese.

1.2 "Mould cured or mould ripened cheese" is a cured cheese in which the curing has been accomplished primarily by the development of characteristic mould growth throughout the interior and/or on the surface of the cheese.

1.3 "Uncured or unripened cheese" is cheese which is ready for consumption shortly after manufacture and requires no further physical or chemical change.

2. Classification of cheese according to firmness, fat content and principal curing characteristics

The following classification shall be applicable to all cheeses covered by this standard. However, this classification shall not preclude the designation of more specified requirements in individual cheese standards.

	Term I		Term II		Term III
If the MFFB* is %	The first phrase in the designation shall be	If the FDB** is %	The second phrase in the designation shall be		Designation according to principal curing characteristics
51	Extra hard	60	High fat	1.	Cured or ripened
49-56	Hard	45-60	Full fat	a.	mainly surface
54-63	Semi-hard	25-45	Medium fat	b.	mainly interior
61-69	Semi-soft	10-25	Low fat	2.	Mould cured or ripened
67	Soft	10	Skim	a.	mainly surface
				b.	mainly interior
				3.	Uncured or unripened

* MFFB equals percentage moisture on a fat-free basis, i.e.

$$\frac{\text{Weight of moisture in the cheese}}{\text{Total weight of cheese - fat in the cheese}} \times 100$$

** FDB equals percentage fat on the dry basis i.e.

$$\frac{\text{Fat content of the cheese}}{\text{Total weight of cheese - moisture in the cheese}} \times 100$$

Example

We have as an example, a cheese with moisture on a fat free basis of 57% and fat on a dry basis of 53% which is cured in a manner similar to that in which roquefort is cured. The description would then be:

Semi-hard
(Term I)

Full fat
(Term II)

Interior mould cured cheese
(Term III)

DRAFT INTERNATIONAL STANDARD FOR EXTRA HARD GRATING CHEESE

1. DESIGNATION OF CHEESE
Extra Hard Grating (i.e. cheese suitable for grating)
2. DEPOSITING COUNTRY
United States of America
3. RAW MATERIALS
 - 3.1 Kind of milk: cow's milk, goat's milk or sheep's milk and mixtures of these milks
 - 3.2 Authorized additions:
 - 3.2.1 Necessary additions:
 - cultures of harmless lactic acid producing bacteria (starter)
 - rennet or other suitable coagulating enzymes
 - sodium chloride
 - 3.2.2 Optional additions:
 - calcium chloride, maximum 200 mg/kg (anhydrous) of milk used
 - harmless flavour producing bacteria
 - harmless enzymes to assist in flavour development (solids of preparation not to exceed 0.1% of weight of milk used)
 - chlorophylls, including copper chlorophyll (colour index No. 75810)
 - Benzoyl peroxide or a mixture of "benzoyl peroxide with potassium alum, calcium sulphate and magnesium carbonate, singly or in combination. The weight of benzoyl peroxide used shall not exceed 0.002 percent of the weight of the milk bleached and the weight of the potassium alum, calcium sulphate and magnesium carbonate, singly or combined, shall not be more than six times the weight of the benzoyl peroxide used.
 - sorbic acid or its sodium or potassium salts, maximum 1000 mg/kg calculated as sorbic acid
4. PRINCIPAL CHARACTERISTICS OF THE CHEESE READY FOR CONSUMPTION
 - 4.1 Type:
 - 4.1.1 Consistency: extra hard, suitable for grating
 - 4.1.2 Age of cure: minimum age 6 months 4.2 Shape: various
 - 4.3 Dimensions and Weight:
 - 4.3.1 Dimensions: various
 - 4.3.2 Weights: various
 - 4.4 Rind, where present:
 - 4.4.1 Consistency: extra hard

- 4.4.2 Appearance: dry, may be darkened by artificial colouring; may be coated with vegetable oil, food grade wax or plastic materials
- 4.4.3 Colour: amber unless coloured, then brown to black
- 4.5 Body:
 - 4.5.1 Texture: granular, slightly brittle
 - 4.5.2 Colour: natural uncoloured or bleached white to light cream colour
- 4.6 Holes (when holes are a typical characteristic of the variety):
 - 4.6.1 Number: few
 - 4.6.2 Shape: oval, round
 - 4.6.3 Size: approximately 1 mm
 - 4.6.4 Appearance: characteristic gas holes
- 4.7 Minimum fat: 32% fat in dry matter
- 4.8. Maximum moisture: 36%
- 4.9 Brief description: hard, dry, slightly brittle, suitable for grating

5. METHOD OF MANUFACTURE

- 5.1 Method of coagulating: rennet or other suitable coagulating enzymes; with the possible addition of lactic acid starter.
- 5.2 Heat treatment:

Milk may be raw. or pasteurized. If pasteurized the milk is heated to not less than 72 C (161°P) for 15 seconds.
- 5.3 Bleaching: the milk may be bleached by the addition of benzoyl peroxide.
- 5.4 Fermentation procedure: lactic acid fermentation or other flavour producing cultures and enzymes.
- 5.5 Maturation procedure: after the curd which may be lightly salted is shaped into forms, the cheese may be salted again in brine, dry. salted or both; held in a temperature controlled room for not less than 6 months.

6. SAMPLING AND ANALYSIS

- 6.1 Sampling: according to FAO/WHO Standard B.1 "Sampling Methods for Milk and Milk Products" para 7 - Sampling Cheese.
- 6.2 Determination of fat content: according to FAO/WHO Standard B.3 "Determination of Fat Content of Cheese and Processed Cheese Products".
- 6.3 Determination of dry matter: (under elaboration).

7. MARKING AND LABELLING

- 7.1 Only cheese conforming with this standard may be designated extra hard grating cheese. A "coined" or "fanciful" name, however, may be used provided it is not misleading and is accompanied by an appropriately descriptive term.

- 7.2 It shall be labelled in conformity with the appropriate sections of Article of the FAO/WHO Standard A-6 "General Standard for Cheese".
- 7.3 The use of food colours and bleaching agents shall be indicated on the label.

DRAFT STANDARD FOR EDIBLE ACID CASEIN1. DEFINITION

Edible acid casein is the product obtained by separating, washing and drying the acid-precipitated coagulum of skimmed milk or buttermilk, and which has been subjected to an appropriate heat treatment.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1	Minimum protein content in the dry matter (Protein nitrogen x 6.38)	90% m/m
2.2	Maximum moisture content	12% m/m
2.3	Maximum milkfat content in the dry matter	2.25% m/m
2.4	Maximum sediment (scorched particles)	22.5 mg in 25 g
2.5	Foreign matter (such as particles of wood, metal, hairs or fragments of insects)	none in 25 g
2.6	Maximum free acid, extracted at 20°C	0.27 ml of 0.1 N/
2.7	Maximum lactose content	1% m/m [NaOH/g
2.8	Maximum ash (including P ₂ O ₅)	2.5% m/m
2.9	Flavour and odour: not more than slight foreign flavours and odours. The product must be free from offensive flavours and odours	
2.10	Physical appearance: white to pale cream, free from lumps that do not break up under slight pressure	

3. CONTAMINANTS

3.1	Maximum copper content	[Govern, comments are	5 mg/kg
3.2	Maximum lead content	especially requested on this	2 mg/kg]
3.3	Maximum iron content	level	20 mg/kg

4. FOOD ADDITIVES

Lactic acid	GMP
Hydrochloric acid	GMP
Sulphuric acid	GMP
Phosphoric acid	GMP

5. LABELLING

This section will "be revised in the light of recommendations to be made by the Codex Committee on Food Labelling on the Labelling of Bulk Containers.

5.1 The name of the food

The name of the product shall be edible acid casein.

5.2 Net contents

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

5.3 Name and address

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

5.4 Country of origin (manufacture)

The country of manufacture of the food shall be declared except that foods sold within the country of manufacture need not declare the country of manufacture.

6. METHODS OF SAMPLING AND ANALYSIS

6.1 Sampling: according to FAO/WHO Standard B-1, "Sampling Methods for Milk and Milk Products", paragraphs 2 and 5.

6.2 Methods of analysis: Standard methods recommended jointly by IDF, ISO and AOAC and approved by the FAO/WHO Committee of Government Experts on the Code of Principles concerning Milk and Milk Products.

DRAFT STANDARD FOR EDIBLE CASEINATES

1. DEFINITION

Edible caseinate is the dry product obtained by combining edible casein or fresh edible casein curd with food grade neutralizing agents and which has been subjected to an appropriate heat treatment.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

- | | | |
|-----|--|---|
| 2.1 | Minimum protein content in the dry matter
(Protein Nitrogen x 6.38) | 88% m/m |
| 2.2 | Maximum moisture content | 8% m/m |
| 2.3 | Maximum milkfat content in the dry matter | 1.5% m/m |
| 2.4 | Maximum sediment (scorched particles) | 22.5 mg in 25 g spray dried
32.5 mg in 10 g roller dried |
| 2.5 | Foreign matter (such as particles of wood,
hairs or fragments of insects) | none in 25 g |
| 2.6 | pH value | [not higher than 7] |
| 2.7 | Flavour and odour: not more than slight
foreign flavours and odours. The product
must be free from offensive flavours and
odours. | |
| 2.8 | Physical appearance: White to pale cream;
free from lumps that do not break up under
slight pressure | |

3. CONTAMINANTS

- | | | |
|-----|---------------------------|--|
| 3.1 | Maximum copper
content | 5 mg/kg |
| 3.2 | Maximum lead
content | [Govt. comments are
especially requested on
this level] 2 mg/kg] |
| 3.3 | Maximum iron
content | 50 mg/kg roller dried |

4. FOOD ADDITIVES

Sodium, potassium, calcium and ammonium hydroxide	GMP
---	-----

5. LABELLING

This section will be revised in the light of recommendations to be made by the Codex Committee on Food Labelling on the Labelling of Bulk Containers.

5.1 The name of the food

The name of the food shall be edible caseinate, qualified by the name of the cation and the drying process used (spray or roller dried).

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

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

5.4 Country of origin (manufacture)
The country of manufacture of the food shall be declared except that foods sold within the country of manufacture need not declare the country of manufacture.

6. METHODS OF SAMPLING AND ANALYSIS

6.1 Sampling: according to FAO/WHO Standard B-I, "Sampling Methods for Milk and Milk Products", paragraphs 2 and 5.

6.2 Methods of analysis: Standard methods recommended jointly by IDF, ISO and AOAC and approved by the FAO/WHO Committee of Government Experts on the Code of Principles concerning Milk and Milk Products,

DRAFT STANDARD FOR CREAM FOR DIRECT CONSUMPTION

1. SCOPE

This standard applies to cream, half cream, whipping (and whipped) cream and double cream presented to the consumer after being subjected to pasteurization, sterilization, UHT or ultra pasteurization.

2. DEFINITIONS

2.1 Raw materials

Cream is understood to include half cream, whipping (and whipped) cream and double cream and is the milk product comparatively rich in fat separated from milk which takes the form of an emulsion of the fat-in-skimmed milk type.

2.2 Treatments

2.2.1 Pasteurized products are products which have been subjected to the process of pasteurization by a recognized heat treatment, or which have been manufactured from pasteurized milk.

2.2.2 Sterilized products are products which have been subjected to a process of sterilization by recognized heat treatment in the container in which they are supplied to the consumer.

2.2.3 Ultra heat-treated products (UHT) or ultra pasteurized products are products which have been subjected to a process of UHT or ultra pasteurization in continuous flow by a recognized heat treatment and have been packaged aseptically.

2.3 Forms

Air spray (aerosol) products are products intended for ordinary use which have been packaged under pressure in rigid containers (atomizers) made of materials suited to their use and containing an appropriate gas and permitting the distribution, by use of a valve, of the product contained in the atomizer.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Cream

Minimum milk fat content: 18% m/m

3.2 Half Cream

10% m/m

Minimum milk fat content:

Maximum milk fat content:: less than 18% m/m

3.3 Whipping and Whipped Cream

28% m/m

Minimum milk fat content:

3.4 Heavy Whipping and Whipped Cream

35% m/m

Minimum milk fat content:

3.5 Double Cream

45% m/m

Minimum milk fat content:

3.6	<u>Optional additions</u>	<u>Maximum level</u>
	Sugar (in whipping and whipped cream only)	13%
4.	<u>FOOD ADDITIVES</u> ^{1 2}	
4.1	<u>Stabilizers</u> (not for use in pasteurized cream)	<u>Maximum level</u>
	Sodium, potassium and calcium salts of:	
	hydrochloric acid	0.2% m/m singly
	citric acid	0.3% m/m in combination
	carbonic acid	expressed as anhydrous substances
	orthophosphoric acid	
	polyphosphoric acid	
4.2	<u>Thickening and modifying agents</u> (not for use in pasteurized creams)	
	Carrageenan	0.5% m/m singly or in combination
	Alginates, Na, K, NH ₄ , Ca	
	Gelatine	
	Lecithin	
	Pectins	
	Carboxymethylcellulose, sodium	
	Mono- and diglycerides	
	Preparations of rennin	
	Agar agar	
	Vegetable gums :	
	Acacia gum	
	Benzoin gum	
	Tragacanth gum	
	Guar gum	
	Locust bean gum	
	Xanthan gum	
	caseinates	(0.1% m/m max.)
4.3	<u>Harmless gases</u> (in whipping and whipped creams only)	
	Carbondioxide (CO ₂)	GMP
	Nitrous oxide (N ₂ O)	
4.4	<u>Flavours</u>	
	Vanilla extracts	GMP
	Vanillin	
	Ethyl vanillin	

¹ Subject to endorsement by the Codex Committee on Food Additives.

² See also para 57 of this Report.

5. LABELLING

In addition to Sections 1, 2, 4 and 6 of the General Standard for the Labelling of Pre-packaged Foods (Ref. No. CAC/RS 1-1969), the following specific provisions apply:

5.1 The name of the Food

5.1.1 The name of the product shall be (a) "Cream" or (b) "Half Cream" or cream qualified by an appropriate alternative term in place of "Half", or (c) "Sterilized Cream" or

(d) "Whipped Cream" or "Whipping Cream", or (e) "Heavy Whipped Cream" or "Heavy Whipping Cream", or (f) "Double Cream" as appropriate.

5.1.2 The addition of sugar and flavouring agent(s) as listed under 4.4 shall be declared in association with the name of the product,

5.1.3 Creams which have been heat-treated as specified in Section 2.2, should, in addition to the designations listed in 5.1.1 and 5.1.2 have a declaration of the heat treatment i.e. "pasteurized", or "sterilized" or "ultra heat-treated" or UHT" or "ultra-pasteurized".

5.1.4 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.

5.1.5 The percentage by weight of the milkfat content shall be declared on the label.

5.2 List of ingredients

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

5.3 Net contents

5.3.1 The net contents shall be declared by weight in either the metric ("Système international" units) or avoirdupois or both systems of measurement or by volume in one or more of the following systems of measurement: metric ("Système international"), U.S. or British units as required by the country in which the product is sold.

5.4 Name and address

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

5.5 Country of origin (Manufacture)

5.5.1 The country of manufacture of the food shall be declared except that foods sold within the country of manufacture need not declare the country of manufacture.

DRAFT STANDARD FOR YOGHURT (YOGURT) AND
SWEETENED YOGHURT (SWEETENED YOGURT)

1. DEFINITIONS

1.1 Yoghurt is a coagulated milk product obtained by lactic acid fermentation through the action of *Lactobacillus bulgaricus* and *Streptococcus thermophilus*, from milk and milk products as listed in 2.3 and with or without those listed in 2.5. The microorganisms in the final product must be viable and abundant.

1.2 Sweetened yoghurt is yoghurt to which one or more sugars only have been added.

1.3 'Sugars' mean any carbohydrate sweetening matter.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 Yoghurts

2.1.1 Yoghurt

Minimum milkfat content:	3.0% m/m
Minimum milk solids non-fat content:	8.2% m/m

2.1.2 Partially skimmed yoghurt

Maximum milkfat content:	less than 3.0% m/m
Minimum milkfat content:	more than 0.5% m/m
Minimum milk solids non-fat content:	8.2% m/m

2.1.3 Skimmed yoghurt

Maximum milkfat content:	0.5% m/m
Minimum milk solids non-fat content:	8.2% m/m

2.2 Sweetened yoghurts

Yoghurt, partly skimmed yoghurt and skimmed yoghurt complying with the requirements of sections 2.1.1 and 2.1.2 and 2.1.3 respectively, and containing sugars. The compositional requirements refer to the milk part of the sweetened yoghurts.

2.3 Essential raw materials

- Pasteurized milk or concentrated milk, or
- Pasteurized partly skimmed milk or concentrated partly skimmed milk, or
- Pasteurized skimmed milk or concentrated skimmed milk, or
- pasteurized cream, or
- a mixture of two or more of these products..

2.4 Essential additions

- Cultures of *Lactobacillus bulgaricus* and *Streptococcus thermophilus*.

2.5 Optional additions

- Milk powder, skimmed milk powder, unfermented buttermilk, concentrated whey, whey powder, whey proteins, whey protein concentrate, water-soluble milk proteins, edible casein, caseinates, manufactured from pasteurized products.
- Cultures of suitable lactic acid producing bacteria in addition to those in 2.4
- Sugars (in sweetened yoghurt only).

3. FOOD ADDITIVES

None

4. LABELLING

In addition to Sections 1, 2, 4 and 6 of the General Standard for the Labelling of Prepackaged Foods (Ref. No. CAC/RS 1-1969) the following specific provisions apply:

4.1 The name of the food

The name of the product shall be Yoghurt, or Yogurt, subject to the following provisions:

- 4.1.1 Yoghurt with not less than 3.0% milkfat content should be designated as yoghurt unqualified.
- 4.1.2 For yoghurt with less than 3.0% milkfat but with more than 0.5% milkfat the designation shall include partly skimmed, low fat or any other suitable qualifying description. Accompanying the name of the food shall be a milk fat statement in multiples of 0.5%, e.g. 1.0%, 1.5%, 2.0% etc. whichever is closest to the actual milk fat content of the yoghurt.
- 4.1.3 For yoghurt with less than 0.5% m/m milkfat content the designation shall include skimmed or any other suitable qualifying description.
- 4.1.4 The provisions given in 4.1.1, 4.1.2 and 4.1.3 apply also to yoghurt to which sugar or sugars have been added in accordance with section 2.2, with the proviso that the designations concerned shall be accompanied by the term "Sweetened".
- 4.1.5 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.

4.2 List of ingredients

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

4.3 Net contents

The net contents shall be declared by weight in either the metric ("Système International" units) or avoirdupois or both systems of measurement or by volume in one or more of the following systems of measurement: metric ("Système International"), U.S. or British units as required by the country in which the product is sold.

4.4 Name and address

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

4.5 Country of origin (manufacture)

The country of manufacture of the food shall be declared except that foods sold within the country of manufacture need not declare the country of manufacture.

4.6 Date marking

There shall be an indication in clear of the date of production, that is, the date the final product was packaged for final sale or the sell-by date.

DRAFT STANDARD FOR FLAVOURED YOGHURT (FLAVOURED YOGURT)

1. DEFINITIONS

1.1 Flavoured yoghurt as defined in Section 1.1 of the Standard for Yoghurt (Yogurt) No. A-11(a) with added flavouring foods or other flavouring substances and with or without added sugars and/or colouring substances.

1.2 Flavoured X yoghurt is yoghurt conforming with the product defined in 1.1 and heat treated after fermentation.

2. ESSENTIAL COMPOSITION. AND QUALITY FACTORS

2.1 The milk part of flavoured yoghurts shall comply with the requirements for yoghurts as specified in sub-section 2.1 of the standard for yoghurt (yogurt). The minimum amount of yoghurt in the final product must be 70% m/m.

2.2 Optional Additions

Natural flavouring ingredients such as fruit (fresh, canned quick frozen, powdered), fruit purée, fruit pulp, jam, fruit syrup, fruit juice, honey, chocolate, cocoa, nuts, coffee, spices and other harmless natural flavouring ingredients.

3. FOOD ADDITIVES

3.1 Flavours

Essences and extracts derived from fruit or parts of fruit ¹ and the synthetic equivalents of essences.

¹ endorsed by the Codex Committee on Food Additives

3.2 Food Colours

	COLOUR INDEX (1971) NUMBER	MAXIMUM LEVEL** (mg/kg)
Tartrazine	19140	18
Sunset Yellow FCF or Orange Yellow S	15985	12
Cochineal or Carminic Acid *	75470	20
Carmoisine or Azorubine	14720	57
Amaranth	16185	12
Ponceau 4R or Cochineal Red A	16255	48
Erythrosine BS	45430	27
Indigo Carmine or Indigotine	73015	6
Green S or Acid Brilliant Green BS or Lissamine Green *	44090	2
Caramel Colours	-	150
Black PN or Brilliant Black BN	28440	12
Beetroot Red or Betanin	-	250
Chocolate Brown FB *	-	30
Red 2 G *	18050	30
F. D. and C. Blue No. 1 (Brilliant Blue FCF)	42090	-
Juices extracted from natural fruit and vegetable sources.*		-

3.3 Stabilizers

Furcellaran	
Xanthan gum	
Arabic gum	
Locust (Carob) bean gum *	
Karaya gum	
Guar gum *	
Oat gum *	
Tragacanth gum *	
Agar-agar	
Carrageenan	
Sodium carboxymethylcellulose (cellulose gum)	
Sodium, potassium, calcium and ammonium alginates (Algin)	
Propylene glycol alginate	
Pectins	10 g/kg
Gelatine	10 g/kg
Starches and modified starches appearing in the Codex List (CAL/FAL 1-1973) and supplement 1)	10 g/kg

* not yet cleared toxicologically

** Note by the Secretariat: These figures should be rounded off.

3.4 Preservatives in Flavouring Substances

Sorbic acid and its sodium, potassium and calcium salts, sulphur dioxide, benzoic acid in flavours at levels permitted in individual Codex standards for fruits and fruit based products, where such standards exist or, in the absence of a Codex standard, a maximum of 50 mg/kg in the final product.

4. LABELLING

In addition to Sections 1, 2, 4 and 6 of the General Standard for the Labelling of Prepackaged Foods (Ref. No. CAC/RS 1-1969), the following specific provisions apply:

4.1 The Name of the Food

4.1.1 The provisions given in 4.1.1, 4.1.2 and 4.1.3 of the Standard for Yoghurt (Yogurt) No. A-11(a) apply also to yoghurt to which flavouring foodstuffs have been added in accordance with section 2.1, with the provision that the designations concerned shall be accompanied by a description of the food or flavourings which have been added. For flavoured yoghurt which has been heat treated after fermentation the designation shall include X or any other suitable qualifying description.

4.1.2 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.

4.2 List of Ingredients

A complete list of ingredients shall be declared on the label in descending order of proportion in accordance with sub-sections 3.2(b) and (c) of the General Standard for the Labelling of Prepackaged Foods.

4.3 Net Contents

The net contents shall be declared by weight in either the metric ("Système International" units) or avoirdupois or both systems of measurement or by volume in one or more of the following systems of measurement: metric ("Système International"), U.S. or British units as required by the country in which the product is sold.

4.4 Name and Address

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

4.5 Country of origin (manufacture)

The country of manufacture of the food shall be declared except that foods sold within the country of manufacture need not declare the country of manufacture.

4.6 Date marking

There shall be an indication in clear of the date of production, that is, the date the final product was packaged for final sale or the sell-by date.

IDF/ISO/AOAC COOPERATION IN THE FIELD OF METHODS OF SAMPLING AND ANALYSIS

1. Representatives of the IDF, ISO and AOAC met in Rome on 11 April 1975 to discuss progress on collaboration between IDF, ISO and AOAC in connection with analytical standards for the Code of Principles concerning Milk and Milk Products.

Present:

Dr. H. Mair-Waldburg (Chairman)		IDF
Mrs. M. Tuinstra-Lauwaars		AOAC
Dr. R. W. Weik		AOAC
Ir. J. B. Roos		ISO
Mr. S. Boelsma		ISO
Prof. H. W. Kay		IDF
Mr. P. Staal		IDF
¹ Dr. E. Ackermann	Chairman, Committee of Govern. Experts	
¹ Mr. F. S. Anderson	1st Vice Chairman	- do -
¹ Mr. T. L. Hall	2nd Vice Chairman	- do -
¹ Dr. F. Winkelmann		FAO
¹ Mr. W. L. de Haas		FAO
² Dr. G. Vos		EEC

2. Joint IDF/ISO/AOAC Standards submitted to the 17th Session of the Committee of Government Experts

- 2.1 Chloride in cheese - submitted to the Committee at Step (f)
- 2.2 Water, solids not fat and fat contents of butter in one test portion - submitted to the Committee at Step (f).
- 2.3 Foreign fat in milk fat (2 methods) - submitted to the Committee at Step (f).
- 2.4 Nitrate in cheese - submitted to the Committee at Step (c).
- 2.5 Peroxide value - submitted to the Committee at Step (c).
- 2.6 Titratable acidity in dried milk - submitted to the Committee at Step (c).
- 2.7 Selection of samples (Guide to the number of units to be selected when sampling dairy products) - submitted to the Committee at Step (c).

3. Present status of Standards related to the Code of Principles

During the discussion of microbiological methods and the development of methods to determine quality factors, it was emphasized that the Committee has not yet determined if standards of quality, hygienic requirements and microbiological standards will be developed. If, during the 17th Session, the Committee does decide to develop such standards, the following subjects marked with an asterisk will be related to the Code of Principles.

¹ Present for part of the session only

² Observer for EEC

(*) 3.1 Coliforms

A method for several dairy products is at an advanced stage of development.

- (*) 3.2 Antibiotics
Work is in progress.
- (*) 3.3 Psychrotrophs
Work is in progress.
- (*) 3.4 Colony count
IDF Standard 49 is being revised by the Joint Group.
- (*) 3.5 Coagulase positive staphylococci
A method is likely to be available this year.
- (*) 3.6 Yeasts and moulds
Work is in progress.
- (*) 3.7 Mycotoxins
Joint Group has initiated work on aflatoxins.
- (*) 3.8 Pathogens
The general subject is under consideration with a view to establishing priorities.
- 3.9 Moisture in milk and milk products
A method for fluid products is likely to be available in advance of the 18th Session. Work is in progress on other products.
- 3.10 Lactic acid, lactates and neutralizers in dried milk
Work is in progress.
- 3.11 Foreign fat in milkfat
Work is in progress to develop a GLC method for the determination of fatty acid composition.
- 3.12 Protein, ash, free acidity in casein
Methods will be available in advance of the 18th Session, at Step (c) of the procedure.
- 3.13 Pesticide residues
A method for the detection of organochlorine pesticides will be available in advance of the 18th Session, at Step (c) of the procedure.
- 3.14 TBA value
Work is in progress.
- 3.15 Heavy metals
Work is in progress.
- 3.16 General Rose-Gottlieb method for fat determination
Work is in progress.

- (*) 3.17 Water dispersion in butter
Work has been initiated.
 - (*) 3.18 pH of butter
Work has been initiated.
 - 3.19 Freezing point of milk
Work is in progress.
 - 3.20 Sampling methods (Standard B 1)
A revision of the existing standard is in progress.
 - 3.21 Detection of reconstituted milk in fluid milk products
See item 4.2.
 - 3.22 Phosphorus in processed cheese
As a result of recent information, the Joint Group is reconsidering Standard B 12.
 - 3.23 Lactose in the presence of other sugars or other reducing substances
Work is in progress.
4. Standards not related to the Code of Principles
- 4.1 Protein in milk (instrumental dye-binding method)
The draft method has been revised and has now been circulated to IDF/ISO/AOAC.
 - 4.2 Characterization of milk powders according to heat treatment and usages
Work is in progress.
5. Future plans
- 5.1 The three organizations are developing plans to consider microbiological methods during a one week meeting of several joint groups of experts in 1976. If this effort is successful, the three organizations could expand the scope of such meetings to include chemical methods in future years.
 - 5.2 Procedures for assessing the reliability (repeatability and reproducibility) of analytical methods in general are currently being investigated.
6. Date and place of next meeting
- The next meeting will be held in Rome immediately preceding the 18th Session. It is hoped to have one or two interim meetings before the 18th Session.

Submitted to the Committee for Approval

JOINT IDF/ISO/AOAC PROPOSAL
DETERMINATION OF WATER, SOLIDS-NOT-FAT AND FAT CONTENTS OF BUTTER
ON ONE TEST PORTION

REFERENCE METHOD

1. SCOPE

This standard describes a reference method for the determination of the water, solids-not-fat (including salt), and fat contents of butter.

2. DEFINITION

2.1 Water content

The water content of butter is defined as the loss of mass, expressed as percentage by mass, as determined by the procedure described under 7.2 and 8.1.

2.2 Solids-not-fat content

The solids-not-fat content of butter is defined as the percentage by mass of substances as determined by the procedure described under 7.3 and 8.2.

2.3 Fat content

The fat content of butter is defined as the percentage by mass obtained by subtracting the water content and the solids-not-fat content from 100.

3. PRINCIPLE

3.1 For the determination of the water content

The water content is determined gravimetrically by drying a known quantity of butter at $102 \pm 2^\circ\text{C}$.

3.2 For the determination of the solids-not-fat content

The solids-not-fat content is determined gravimetrically sifter extracting the fat from the dried butter with light petroleum or hexane.

4. REAGENT

Light petroleum (petroleum ether) with any boiling range between 30°C and 60°C . Alternatively, hexane may be used. The reagent should not leave more than 1 mg residue after evaporation of 100 ml.

5. APPARATUS

5.1 Analytical balance capable of weighing to 0.1 mg.

5.2 Drying oven, well ventilated and thermostatically controlled (adjusted to operate at $102 \pm 2^\circ\text{C}$).

5.3 Glass, porcelain or corrosion-proof metal dishes, at least 25 mm high and at least 50 mm in diameter.

- 5.4 Sintered-glass filter crucibles, 16-40 µm porosity, with suction flask.
- 5.5 Stirrer with end-piece of flexible, inert material.
- 5.6 Desiccator with suitable drying agent, e.g., indicating silica gel.

6. SAMPLING

See FAO/WHO Standard B-I "Sampling Methods for Milk and Milk Products".

7. PROCEDURE

7.1 Preparation of the sample

Bring the sample in the original unopened container, which should be from half to two-thirds full, to a temperature at which the sample will be soft enough to facilitate a thorough mixing to a homogeneous state (either by a mechanical shaker or by hand) without any rupture of emulsion. The temperature of mixing should normally not exceed 35°C.

Cool the sample to ambient temperature, mixing being continued until cooling is completed. As soon as possible after cooling, open the sample container and stir briefly (not exceeding 10 seconds) with a suitable device e.g. spoon or spatula, before weighing.

7.2 Determination of water

- 7.2.1 Dry a dish (5.3) in the oven (5.2) for at least one hour.
- 7.2.2 Allow the dish to cool in the desiccator to the temperature of the balance room and weigh to the nearest 0.1 mg.
- 7.2.3 Weigh into the dish, to the nearest 1 mg, between 2 and 6 g of the butter sample. (Samples should be at least 5 g for unsalted butter.)
- 7.2.4 Place the dish in the oven for 2 hours.
- 7.2.5 Allow the dish to cool in the desiccator to the temperature of the balance room and weigh to the nearest 0.1 mg.
- 7.2.6 Repeat the drying process for 1 hour and at additional half-hour intervals until constant mass (mass change not exceeding 1.0 mg). In the event of an increase in mass, the lowest mass recorded is taken for the calculation.

7.3 Determination of solids-not-fat

- 7.3.1 Dry the glass filter crucible in the oven (5.2) for at least 1 hour.
- 7.3.2 Allow the crucible to cool in the desiccator to the temperature of the balance room and weigh to the nearest 0.1 mg.
- 7.3.3 Add 10 to 15 ml of warm light petroleum (4) to the dish containing the dry matter left from the water determination (7.2) so as to dissolve the fat.
- 7.3.4 Detach as much as possible of the sediment adhering to the dish by using the stirrer (5.5), and quantitatively transfer the contents over the stirrer tip into the crucible (5.4).
- 7.3.5 Repeat operations 7.3.3 and 7.3.4 five times.
- 7.3.6 Wash the sediment in the crucible with 25 ml of warm light petroleum.

- 7.3.7 Dry both dish and crucible in the oven for 30 minutes.
- 7.3.8 Allow both dish and crucible to cool in the desiccator to the temperature of the balance room and weigh to the nearest 0.1 mg.
- 7.3.9 Repeat operations 7.3.7 and 7.3.8 for periods of 30 minutes until constant mass (mass change not exceeding 1.0 mg).

8. EXPRESSION OF RESULTS

8.1 Method of calculation of the water content

The percentage by mass of water is equal to

$$\frac{m_2 - m_1}{m_2 - m_0} \times 100$$

where:

m_2 = mass, in grammes, of test portion and dish before drying (clause 7.2.3)

m_1 = mass, in grammes, of test portion and dish after drying (clause 7.2.6)

m_0 = mass, in grammes, of empty dish (clause 7.2.2)

Take the result as the arithmetic mean of the results obtained expressed to the first nearest decimal if the requirement of clause 8.4.1 is satisfied.

8.2 Method of calculation of the solids-not-fat content

The percentage by mass of solids-not-fat is equal to

$$\frac{(A_1 - A_0) + (m_3 - m_0)}{m_2 - m_0} \times 100$$

where:

A_0 = mass, in grammes, of empty crucible (7.3.2)

A_1 = mass, in grammes, of crucible containing sediment (7.3.9)

M_2 = mass, in grammes, of test portion and dish (7.2.3)

M_0 = mass, in grammes, of empty dish (7.2.2)

m_3 = mass, in grammes, of dish after removal of sediment (7.3.9)

Take as the result the arithmetic mean of the results obtained, to the first nearest decimal, if the repeatability requirement (8.4.2) is satisfied.

8.3 Method of calculation of the fat content

The percentage, by mass, of fat is equal to

$$100 - (E + S)$$

expressed to the nearest first decimal place,

where:

E = percentage by mass of water (calculated in 8.1)

S = percentage by mass of solids-not-fat (calculated in 8.2).

8.4 Repeatability

8.4.1 For the determination of the water content:

The difference between results of two determinations carried out simultaneously or in rapid succession by the same analyst should not exceed 0.10g of water per 100 g of the product.

8.4.2 For the determination of the solids-not-fat content:

The difference between the results of two determinations carried out simultaneously or in rapid succession by the same analyst should not exceed 0.10 g of solids-not-fat per 100 g of the product.

9. TEST REPORT

The test report should show the method used and the result obtained. It should also mention any operating conditions not specified in this standard, or regarded as optional, as well as any circumstances that may have influenced the result. The report should include all details required for the complete identification of the sample.

Submitted to Governments for Comments

JOINT IDF/ISO/AOAC PROPOSAL

DETERMINATION OF THE NITRATE CONTENT OF CHEESE

(Reference method)

1. SCOPE

This standard specifies a reference method for the determination of the nitrate content of hard, semi-hard and soft cheeses of various ages and of processed cheese by means of a reduction of the nitrate and subsequent analysis of the nitrite formed*

2. DEFINITION

Nitrate content of cheese : the content of substances determined by the procedure described and expressed as milligrams nitrate (NO₃) per kilogram (parts per million).

3. PRINCIPLE

Extraction of the cheese with warm water and precipitation of the fat and proteins. Filtration and reduction of the nitrate to nitrite by copperized cadmium. Addition of sulphanil amide and N-(1-naphtyl) ethylene diamine dihydrochloride, and photometric estimation of the intensity of the resulting red colour. Substraction of the nitrite content originally present in the cheese. Calculation of the nitrate content by comparing the difference in optical density with the light absorption displayed by a series of sodium nitrite standard solutions. The reducing power of the copperized cadmium is verified with a standard potassium nitrate solution treated in the same manner.

4. REAGENTS

All reagents shall be of analytical grade. Water shall be distilled or deionized, completely free from nitrite and nitrate.

In order to avoid the inclusion of small gas bubbles in the copperized cadmium column (5.10) the distilled or deionized water used for the preparation of the column (7.1), for checking the reducing capacity of the column (7.2), and for reconditioning of the column (7.3) shall be freshly boiled and afterwards cooled to room temperature.

4.1 Cadmium granules for reductors, diameter of the particles 0.3-0.8 mm.

4.2 Copper sulphate solution

Dissolve 20 g of copper sulphate pentahydrate (CuSO₄.5H₂O) in water and dilute to 1000 ml.

4.3 Buffer solution, pH 9.6-9.7

Dilute 25 ml of concentrated hydrochloric acid (p20 = 1.19 g/ml) with 300 ml of water. After mixing, add 50 ml of concentrated ammonia (p 20 = 0.88 g/ml). Dilute to 500 ml with water and mix. Adjust pH to 9.6-9.7 if necessary.

- 4.4 Hydrochloric acid solution, about 2N
Dilute 160 ml of concentrated hydrochloric acid ($\rho_{20} = 1.19 \text{ g/ml}$) to 1000 ml with water.
- 4.5 Hydrochloric acid solution, about 0.1N
Dilute 50 ml 2N hydrochloric acid solution to 1000 ml with water.
- 4.6 Solutions for precipitation of proteins and fat
- 4.6.1 Zinc sulphate solution
Dissolve 53.5 g of zinc sulphate heptahydrate ($\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$) in water and dilute to 100 ml.
- 4.6.2 Potassium hexacyanoferrate (II) solution
Dissolve 17.2 g of potassium hexacyanoferrate (II) trihydrate ($\text{K}_4\text{Fe}(\text{CN})_6 \cdot 3\text{H}_2\text{O}$) in water and dilute to 100 ml.
- 4.7 EDTA solution
Dissolve 33.5 g Na_2EDTA in water and dilute to 1000 ml.
- 4.8 Sodium nitrite standard solution
Dissolve in water, 0.150 g sodium nitrite (NaNO_2), dried to constant weight at 110-120 °C, dilute to 1000 ml with water and mix well.
Dilute 10 ml of this solution with 20 ml of buffer solution (4.3) and dilute further to 1000 ml with water. Mix well.
Each ml of this final dilution contains 1.00 μg NO_2 .
- 4.9 Colour reagents
- 4.9.1 Solution I, sulphanilamide solution
Dissolve, by heating on a waterbath, 0.5 g of sulphanilamide ($\text{NH}_2\text{C}_6\text{H}_4\text{SO}_2\text{NH}_2$) in a mixture of 75 ml water and 5 ml concentrated hydrochloric acid. ($\rho_{20}=1.19 \text{ g/ml}$). Cool to room temperature and dilute to 100 ml with water. Filter if necessary,
- 4.9.2 Solution II, hydrochloric acid solution, about 5.5N
Dilute 445 ml of concentrated hydrochloric acid ($\rho_{20}=1.19 \text{ g/ml}$) to 1000 ml with water.
- 4.9.3 Solution III, N-(1-naphtyl)-ethylenediamine solution
Dissolve 0.1 g of N-(1-naphtyl)-ethylenediamine dihydrochloride ($\text{C}_{10}\text{H}_7\text{NHCH}_2\text{CH}_2\text{NH}_2 \cdot 2\text{HCl}$) in water. Dilute to 100 ml with water. Filter if necessary.
Store the solution in a well-stoppered brown bottle in a refrigerator, for not longer than one week.
- 4.10 Potassium nitrate standard solution
Dissolve in water, 1.467 g of potassium nitrate (KNO_3), dried to constant weight at 110-120 °C, dilute to 1000 ml with water.
Dilute 5 ml of this solution to 1000 ml with water. Mix well.
Each ml of this final dilution contains 4.50 μg NO_3 .

5. APPARATUS AND GLASSWARE

All glassware should be thoroughly cleaned and rinsed with distilled water to be sure that it is free from nitrate and nitrite.

- 5.1 Balance, sensitivity 1 mg.

- 5.2 Appropriate grinding device.
- 5.3 Suitable laboratory mixer/homogenizer with glass containers of 250/400 ml.
- 5.4 Conical flasks of 250 ml.
- 5.5 One-mark volumetric flasks of 100, 500 and 1000 ml complying with ISO/R 1042, Class B.
- 5.6 One-mark pipettes of 2,4,5,6,8,10,12,20,25 and 50 ml complying with ISO/R 648, Class A.
- 5.7 Graduated cylinders of 5,10,25,100,250,500 and 1000 ml.
- 5.8 Glass funnels, diameter about 7 cm, with short stem.
- 5.9 Filter paper, diameter about 15 cm, nitrate and nitrite free (Whatmann Nr.40 or equivalent).
- 5.10 Water bath, maintaining a temperature of 50 °C.
- 5.11 Reduction column (e.g. as in figure 1).
- 5.12 Photoelectric colorimeter or spectrophotometer with cells of 1-2 cm path length,

6. SAMPLING

- 6.1 See IDF Standard 50 "Standard methods for sampling milk and milk products". (ISO R 707, AOAC 16001-16005 and 16014).
- 6.2 Store the sample in such a way that deterioration and change in composition are prevented.

7. PROCEDURE

7.1 Preparation of the copperized cadmium column

- 7.1.1 Transfer the cadmium granules (4.1) (approximately 40-60 g for each column) into a conical flask of 250 ml.
- 7.1.2 Add enough of 2N hydrochloric acid solution (4.4) to cover the cadmium. Swirl for a few minutes.
- 7.1.3 Wash the cadmium in the flask with water (freshly boiled, see 4), until it is free from chloride.
- 7.1.4 Copperize the cadmium granules by adding copper sulphate solution (4.2) (about 2.5 ml per g cadmium) and swirling for one minute.
- 7.1.5 Wash the copperized cadmium immediately afterwards with water, always taking care that cadmium being continually covered with water. Terminate the washing when the wash water is free from precipitated copper.
- 7.1.6 Fit a glass wool plug to the bottom of the glass column intended to contain the copperized cadmium (see figure). Fill the glass column with water.
- 7.1.7 Transfer the copperized cadmium into the glass column with minimum exposure to air. The height of the copperized cadmium should be 15-20 cm.

Notes:-

- 1. *Air bubbles trapped in the copperized cadmium granules should be avoided.*

2. *The column must not be filled above the level of the discharge tip; otherwise the column can run dry.*

7.1.8 Condition the newly prepared column by running a mixture, obtained by adding to 750 ml of water, 225 ml of potassium nitrate standard solution (4.10), 20 ml of buffer solution (4.3) and 20 ml of EDTA solution (4.7), through the column with a flow rate not exceeding 6 ml per minute. Then wash the column with 50 ml of water.

7.2 Checking the reducing capacity of the column

Carry out this checking at least two times a day, at the beginning and at the end of the determination.

7.2.1 Pipette 20 ml of potassium nitrate standard solution (4.10) into the reservoir on top of the column. Add immediately 5 ml of buffer solution (4.3) to the content of the reservoir. Collect the effluent in a 100 ml volumetric flask. The flow rate shall not exceed 6 ml/minute.

7.2.2 When the reservoir has nearly run empty, wash the walls of the vessel with about 15 ml of water and when this has run off, repeat the same treatment with another 15 ml portion of water. After this second portion of water has run into the column as well, completely fill the reservoir with water.

7.2.3 After nearly 100 ml of effluent has been collected, remove the volumetric flask from under the column, make up to mark with water and mix well.

7.2.4 Pipette 10 ml of the eluate into a 100 ml volumetric flask. Add water to obtain a volume of about 60 ml. Proceed as specified in 7.8.2, 7.8.3 and 7.8.5.

7.2.5. If the nitrite concentration of the eluate, as determined from the calibration curve (7.10) is below 0.063 µg of NO₂ per ml (i.e. 95 % of theoretical value), the column should be reconditioned.

Note:- If the reduction capacity is less than 95 %, but not less than 85 %, the column can be used. In that case, the reduction capacity of the column, must be checked before and after each determination.

7.3 Reconditioning of the column

After use at the end of every day and if the reduction efficiency of the column is reduced during use, it must be reconditioned as follows.

7.3.1 Add about 5 ml of EDTA solution (4.7) and 2 ml of 0.1N hydrochloric acid solution (4.5) to 100 ml of water. Run the mixture through the column at a flow rate of about 10 ml/minute.

7.3.2 When the reservoir has run empty, wash the column with water, 0.1N hydrochloric acid solution and water successively.

7.3.3 If the column still does not show a satisfactory efficiency repeat sequence of 7.1.8.

7.4 Preparation of the sample

Remove the coating and 0.5 to 1 mm of the outer part of the cheese sample. Then grind the whole sample. Quickly mix the whole mass and preferably grind the mass again and then mix again quickly. If the sample (for instance soft cheese) can not be ground, mix the whole sample thoroughly. Then transfer the

pretreated sample or a representative part of it, immediately into a sample jar of suitable size with a tightly fitting lid.

Test the sample without delay, as soon as possible after grinding. Ground cheese showing unwanted mould growth or beginning deterioration should not be examined.

7.5 Test portion

Weigh 10 g of the sample to the nearest 1 mg and transfer it quantitatively into the glass container of the mixer (5.3)•

7.6 Extraction and deproteinisation

7.6.1 Add gradually 164 ml of warm water (50 °C) to the test portion. Mix in the mixer/homogenizer until the cheese is well suspended.

7.6.2 Add 6 ml of zinc sulphate solution (4.6.1), 6 ml of potassium hexacyanoferrate (II) solution (4.6.2) and 20 ml buffer solution (4.3) (in this order) to the cheese suspension with thorough swirling between each addition.

7.6.3 Place the container of the mixer in the water bath (5.10). After 3 minutes, filter through a filter paper (5.9), collecting the filtrate in a conical flask of 250 ml.

Note:

If well matured cheeses are analysed, it might be necessary to use a bigger quantity of precipitation reagents to obtain a clear filtrate.

7.7 Reduction of nitrate to nitrite

7.7.1 Pipette 20 ml of the filtrate (7.6.3) into the reservoir on top of the column. Add immediately 5 ml of buffer solution (4.3) to the content of the reservoir. Collect the effluent in a 100 ml volumetric flask. The flow rate shall not exceed 6 ml/minute.

7.7.2 When the reservoir has nearly run empty, wash the walls of the vessel with about 15 ml of water and when this has run off, repeat the same treatment with another 15 ml portion of water. After this second portion of water has run into the column as well, completely fill the reservoir with water.

7.7.3 After nearly 100 ml of effluent has been collected, remove the volumetric flask from under the column, make up to mark with water and mix well.

7.8 Determination

7.8.1 Pipette a suitable aliquot of the eluate (7.7.3) (e.g. 25 ml) into a 100 ml volumetric flask. Add water to obtain a volume of about 60 ml.

7.8.2 Add 5 ml of colour reagent I (4.9.1) and afterwards 6 ml of solution II (4.9.2). Mix carefully and leave the solution for 5 minutes at room temperature, prevented from direct sunlight.

7.8.3 Add 2 ml of solution III (4.9.3). Mix carefully and leave the solution for 5 minutes at room temperature, prevented from direct sunlight. Make up to mark with water and mix well.

7.8.4 Run a sample blank in which the cadmium reduction has been omitted.

7.8.5 Measure the optical density of the solutions against a reagents blank (7.9) at a wave length of 538 nm.

7.8.6 Carry out two determination on the same eluate (7.7.3).

7.9 Blank test

Carry out a reagents blank test using all reagents and 4 ml of water instead of 10 g of ground cheese.

7.10 Calibration curve

7.10.1 Pipette 0, 2, 4, 6, 8, 10 and 12 ml of sodium nitrite standard solution (4.8) into separate 100 ml volumetric flasks. Add water to each volumetric flask to obtain volumes of about 60 ml.

7.10.2 Carry out the procedure described in 7.8.2 and 7.8.3.

7.10.3 Measure the optical densities of the solutions against the first solution (in which no nitrite was pipetted) at a wave length of 538 nm.

8. EXPRESSION OF RESULTS

8.1 Method of calculation and formula

Calculate the nitrate content of the sample, expressed as milligrams nitrate (NO₃) per kilogram, with the formula :

$$\text{NO}_3 = \frac{135}{r} \left(\frac{b \times c}{m} - \text{NO}_2 \right)$$

where :

m = the mass in grams of the test portion represented in final volume.

b = final volume in ml to which an aliquot was diluted (100 ml if conducted as described in 7.8.1).

c = the concentration in µg NO₂ per ml, read from the calibration curve, that corresponds with the optical density of the sample solution.

NO₂ = nitrite content of the sample, expressed as milligrams per kilo-gram and determined from the reading obtained in 7.8.4 (sample blank)

r = reducing capacity of the column (in %) determined as described in 7.2.

Take as the results the arithmetic mean of two determinations if the requirement of repeatability is satisfied.

Report the result to the nearest milligram per kilogram.

8.2 Repeatability

The difference between the results of a determination in duplicate (results obtained almost simultaneously or in rapid succession by the same analyst) shall not be greater than 3 mg/kg if the nitrate content is lower than 30 mg/kg and not more than 10 % if the nitrate content is higher.

9. REMARK

In case it is required to determine both the nitrate and the nitrite content on the same product, the same deproteinated filtrate (see 7.6.3) can be used for both.

10. TEST REPORT

The test report shall show the method used by reference to this IDF/ISO/AOAC Standard and the results obtained.

It shall also mention all operation conditions not specified in this Standard, or regarded as optional as well as any circumstances that may have influenced the results.

The report shall include all details necessary for complete identification of the sample.

Figure:

Apparatus for nitrate reduction.
Scale 1:2.

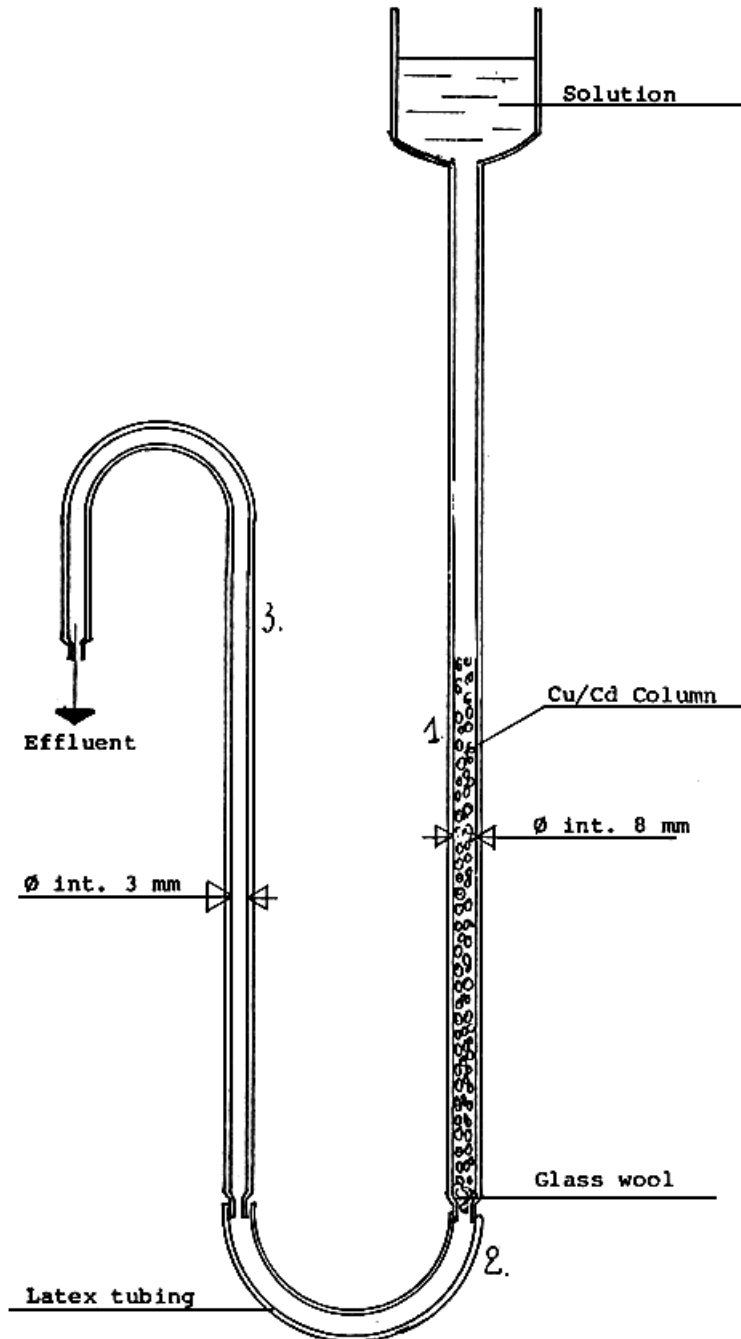


Fig. 1. Reduction column. Measurements in mm. 1. Pyrex column with reservoir inner diameter 8 mm. 2. Tube, transparent latex, connecting 1. and 3. with Hoffmann clamp for regulating flow rate. 3. Pyrex discharge tube. Inner diameter 3 mm.

Submitted to Governments for comments

JOINT IDF/ISO/AOAC PROPOSAL

Draft standard method for the

DETERMINATION OF TITRATABLE ACIDITY IN DRIED MILK

1. SCOPE

This method specifies the determination of titratable acidity in high fat milk powder (cream powder), whole milk powder, partially skimmed milk powder, skimmed milk powder.

2. DEFINITION

The titratable acidity of dried milk is defined as the number of millilitres of a 0.1 N sodium hydroxide solution required to titrate a solution of 10 g of dried milk to the colour change point of phenolphthalein according to the procedure prescribed.

3. PRINCIPLE OF METHOD

A known amount of dried milk is dissolved in water and titrated with a standard NaOH solution using phenolphthalein as indicator and cobaltous sulphate as a reference colour solution.

The amount of alkali solution required is influenced by the natural buffering substances of the milk constituents, by developed or added acid or alkaline substances.

4. REAGENTS

4.1 Solution of sodium hydroxide standardized to 0.1 N \pm 0.0002.

4.2 Distilled or deionized water, freed from carbon dioxide by boiling for 10 min before use.

4.3 Phenolphthalein indicator solution. Dissolve 2 g phenolphthalein in 70 % (v/v) ethyl alcohol and make up to 100 ml. The ethyl alcohol should be neutralized as required.

4.4 Reference colour solution. Dissolve 3 g cobaltous sulphate ($\text{CoSO}_4 \cdot 7\text{H}_2\text{O}$) in distilled water and make up to 100 ml.

5. APPARATUS AND GLASSWARE

5.1 Balance, 0.01 g or better sensitivity.

5.2 Burette, graduated to 0.05 ml.

5.3 Pipettes of 2 ml capacity.

5.4 Graduated cylinders of 50 ml capacity.

5.5 Ground flasks, 100 ml or 150 ml capacity with stoppers.

6. PROCEDURE

6.1 Weigh 5 g \pm 0.01 g quantities of the sample into each of two flasks (5.5).

- 6.2 Add 50 ml water (4.2) of about 20 °C to each of the flasks (6.1).
- 6.3 Reconstitute thoroughly by vigorous agitation.
- 6.4 Allow to stand for about 20 min.
- 6.5 Add to one of the flasks (6.4) 2 ml of the reference colour solution (4.4) to obtain a colour standard; mix by slight swirling.
If a series of determinations of similar powders is to be carried out, this colour standard may be used throughout. The colour standard however should not be used for more than 2 h.
- 6.6 Add 2 ml of the phenolphthalein indicator solution (4.3) to the second flask (6.4); mix by slight swirling,
- 6.7 Titrate the content of the second flask by adding the sodium hydroxide solution (4.1), while swirling until a faint pink colour similar to the colour standard (6.5) persists for about 5 sec. The titration time should not exceed 30 sec. Record the number of millilitres of sodium hydroxide solution used to the nearest 0.05 ml.

7. CALCULATION

Titrate acidity = $2 \times V$

where :

V = the number of millilitres of 0.1 N sodium hydroxide solution recorded under 6.7.

Results should be reported to one decimal place.

8. REPEATABILITY OF RESULTS

The difference between results of duplicate determination (results obtained simultaneously or in rapid succession by the same analyst) should not exceed 0.4.

Submitted to Governments for comments

JOINT IDF/ISO/AOAC PROPOSAL

**A GUIDE TO THE NUMBER OF UNITS TO BE SELECTED WHEN
SAMPLING DAIRY PRODUCTS**

INTRODUCTION

This document is intended to provide a guide to the choice of the sample size for any situation where it is required to measure the conformity to a standard of a consignment of any dairy product by Beans of the examination of a representative sample. This guide is not intended for the sampling agent: it should be used by whoever instructs the sampling agent. The technique of sampling for all dairy products is detailed in ISO R707 which should also be consulted before the samples are taken.

The sampling theory used in this Standard is based on classifying a unit as 'good' or 'defective'. A 'good' unit is one which meets the requirements of a standard; a 'defective' unit is one which does not. The sampling schemes are based on Binomial and Hypergeometric Distribution Theory. The statistical terms used are in accordance with IDF CE Document 10 (1966). More elaborate sampling techniques exist; for example, stratified, multiple, sequential sampling, and some of these would be more efficient in particular cases.

PART I

1. SCOPE

- 1.1 This Standard may be used for all dairy products, where it is required to measure the conformity to a standard of material submitted in discrete consignments. The acceptance or otherwise of any consignment is a matter for the parties to a contract and is outside the scope of the guide.
- 1.2 It is not necessary for the whole consignment to be from the same production.
- 1.3 It is essential that the sample taken is random. This means that each unit in the consignment must have the same probability of appearing in the sample.
- 1.4 This Standard is not suitable for checking on factors related to health. It is, however, applicable to routine sampling for chemical, physical and bacteriological properties.

2. SIZE OF SAMPLE

- 2.1 This Standard allows for three different degrees of inspection:-
I, II, III

The sample sizes are given in Table I:-

TABLE I

<u>No. of units in consignment</u>	<u>No. of units in sample</u>		
	I	II	III
Less than 10		all units	
10 to 99	-	5	10
100 to 999	5	10	20
1 000 to 9 999	10	20	40
10 000 & above	20	40	80
<u>Acceptance Numbers</u>			
<u>Sample Size</u>	<u>Acceptable number of defectives</u>		
5	0		
10	0		
20	0		
40	1		
80	2		

- 2.2 It is possible that different properties of the same product may require different degrees of inspection. In this case the sample size will correspond to the highest sample size concerned. Units to be examined at a lower degree of inspection will be selected from the units in the sample at random. Thus, for example, 10 units might be analysed for one property, but only 5 of the 10 would be analysed for a second property.
- 2.3 The degree of inspection used will be defined by contract or stipulated in the appropriate International Standard or Code of Principles. Parties to a contract may agree to use larger sample sizes if they feel circumstances warrant this.
3. ASSOCIATED RISKS
- 3.1 Full Operating Characteristic Curves are given in the Figures which appear in the Appendix.
- 3.2 If it is necessary to assess a consignment in isolation the risks of accepting any particular quality {should be assessed from the O.C.C. given in the Figures.
- 3.3 Table II shows the relationship between sample size, consignment size, 5% producer risk and 10% consumer risk. In all cases the risk;; are the % defective in the consignments sampled. A fuller explanation will be found in the Appendix (para. 7).

TABLE II

Sample Size	Acceptance No.	Consignment size	5% P.R.	10% C.R.
5	0	10 *	Meaningless	30
		99 *	1.1	36
5	0	100 or more	1.1	36
10	0	100 *	meaningless	20 21
		999 *	0.6	
10	0	1 000 or more	0.6	21
20	0	100 *	0.3	10
		999 *	0.3	11
20	0	1 000 or more	0.3	11
40	1	1 000 or more	1.0	9
80	2	1 000 or more	1.1	7

For smaller consignments Hypergeometric Distribution Theory has been used and these are indicated in the table by an asterisk (*). With larger consignments the risks are independent of consignment size, and in these cases they are calculated from the Binomial Distribution Theory. A fuller explanation of the reasons for using a particular distribution will be found in the Appendix.

PART II - Guide to Selection of Degree of Inspection

4. DEGREE OF INSPECTION

Usually degree of inspection II will be used. 1 is a lesser degree of inspection which can be used for less important properties. It could also be used where experience of satisfactory quality over a long period suggests that inspection could be relaxed. Degree of inspection III should be used if results from inspection at II indicate that there has been a worsening of quality, or when there is little or no knowledge of the quality from a particular source.

5. REASONS FOR REDUCING DEGREE OF INSPECTION

- 5.1 By mutual agreement between buyer and seller (consumer and producer).
- 5.2 If inspection of. for instance, 30 consecutive consignments has revealed no defectives.
- 5.3 If the buyer has access to the production point and Quality Control records of the producer.

NOTE that inspection should not be reduced below that recommended in other Regulations, either national or international.

6. REASONS FOR INCREASING DEGREE OF INSPECTION

- 6.1 By mutual agreement between buyer and seller (consumer and producer).
- 6.2 If a sample taken from a consignment contains more defectives than the acceptance number given in Table I for the appropriate sampling scheme, then subsequent consignments from that source should be inspected at the higher level.
- 6.3 If the sampling agent recommends that this be done.

7. DEGREE OF INSPECTION FOR DIFFERENT PROPERTIES

Chemical and physical properties of dairy products which are defined by Standard or Code of Principles have varying degrees of commercial importance. Also different legislations may have different ways of interpreting limits on certain constituents. In some cases a degree of inspection may be specified in Standards or Codes of Principles: in many cases the consumer must specify the degree of inspection, considering the legal and commercial position in his market, and the effect of quality variations on the acceptability of the product.

8. RECORDS

Successful operation of this type of sampling control requires the maintenance by the consumer of comprehensive records of the results of inspection. There should be an interchange of quality information between producer and consumer, and each should make such information available to the other as required.

PART III - Selection of Units

9. The sampling theory used in this Standard assumes that sample units are selected at random, as defined in 1.3. Whenever these schemes are used every effort must be made to obtain a random sample. Whenever possible a formal randomisation procedure as specified in paras. 10 - 12 should be used.
10. There are two methods which may be used for selecting units at random. In each case the units are numbered in some predetermined fashion and a table of random numbers is used to select the numbers corresponding to the units.
11. If the sample has to be drawn from goods stacked in a store then the units can conveniently be numbered with reference to three co-ordinates with origin at one corner of the store. The random numbers can then be considered as the co-ordinates of the unit to be drawn.
12. The simpler method is to draw the sample at a point where all the consignment is moving sequentially past a point: for instance, when loading or unloading. Then random number i would correspond to the i^{th} unit to pass the point.

NOTE this is not a difficult procedure. It is, however, tedious and time-consuming. Despite this, it is essential if a truly random sample is to be obtained.

HYPERGEOMETRIC & BINOMIAL DISTRIBUTIONS

- 1 If all the possible outcomes of an event can be split into two mutually exclusive categories, for example 'good' and 'defective', and if the probabilities of these two results are p and q = 1- p respectively, then the probability that units in a sample of units will be 'good' is:-

$$Pr \{r\} = \binom{n}{r} p^r q^{n-r}$$

This is the general term of the Binomial expansion of (p + q)ⁿ. The derivation of this statement, which can be found in any elementary statistics textbook, implies these conditions:-

- (a) Results must be capable of being classified as 'good' or 'defective'.
 - (b) A unit must be either 'good' or 'defective'. That is, no single unit can fall into both classes.
 - (c) The outcome of the testing of each of the ft units must be completely independent.
 - (d) The n units must be randomly selected.
2. Condition (c) is not met in all cases, especially when the number of units in the sample form a significant part of the consignment size. In such cases the Hypergeometric Distribution must be used. (Alternatively, condition (c) could be met by replacing the sample unit after each test).
4. If a random sample of n units is drawn from a consignment of N units, and the N units consist of R 'good' and N-R 'defective' then the probability of R 'good' units appearing in the sample is:-

$$Pr \{r\} = \frac{\binom{R}{r} \binom{N-R}{n-r}}{\binom{N}{n}} = \frac{R! (N-R)! n! (N-n)!}{r! (R-r)! (n-r)! (N-R-n+r)! N!}$$

The derivation of this statement implies only conditions (a), (b) and (d).

5. Note that in this case the probability of a certain result (i.e. the sampling risk) is not independent of the number of units in the consignment. Therefore, there is a separate producer risk and consumer risk for every combination of sample and consignment size. In Table II and the Figures the limits of consignment sizes have been used; thus, for example, curves (2) in Fig. II show these two cases.

$$\frac{100 (N-R) \%}{N}$$

In both cases Pr {r} is the vertical axis and $\frac{100 (N-R) \%}{N}$ is the horizontal axis. Note that curve 3 in Fig. 1 gives the Binomial case for n = 10, and this is identical to the Hyper-geometric case for N = 999.

OPERATING CHARACTERISTIC CURVE

6. All the curves shown are called Operating Characteristic Curves; they show the probability of accepting a consignment (vertical axis) related to the percentage of

defectives in the consignment (horizontal axis) when any particular scheme is used.

7. Consider curve 4 on Fig. 1. This shows the operation of the sampling scheme "Test 20 units, accept the consignment if there are no 'defective' units in the sample ($n = 20, C = 0$)". The vertical scale gives the probability of accepting the consignment. At 0.95 (95% probability of accepting) the corresponding value on the horizontal scale is 0.3%. This means that if consignments containing 0.3% of 'defective' items were sampled and tested according to this scheme, 95% of the consignments would be accepted. It is usual to say that "the 5% Producer Risk is 0.3%".

Similarly at 0.10 on the vertical scale, the corresponding value on the horizontal scale is 11.0%. This means that if consignments containing 11.0% of 'defective' items were sampled and tested according to this scheme, only 10% of the consignments would be accepted. It is usual to say that "the 10% Consumer Risk is 11.0%".

8. For further information ISO I.S. 2859 'Sampling Procedures & Tables for Inspection by Attributes' may be consulted.

Fig 1

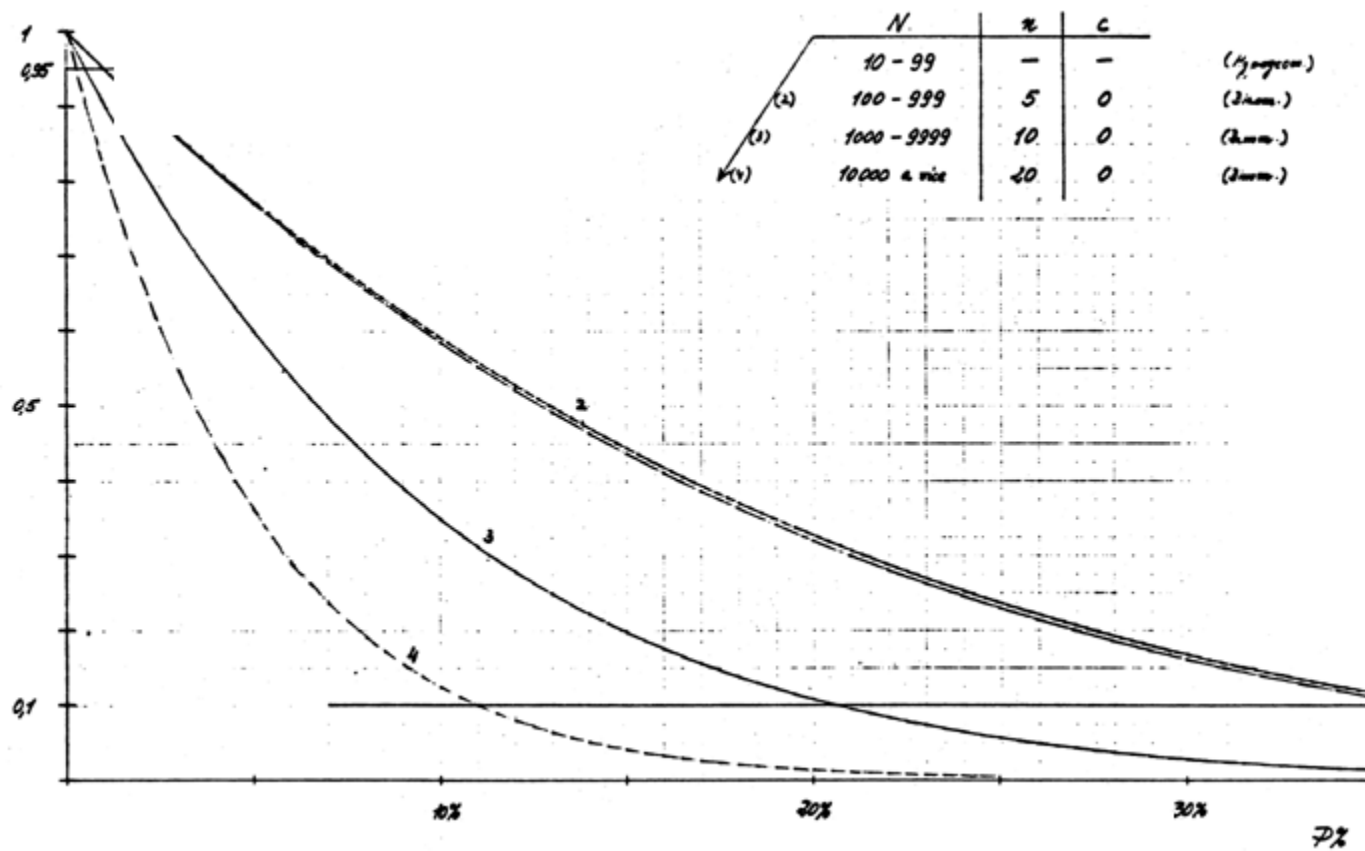


Fig. II

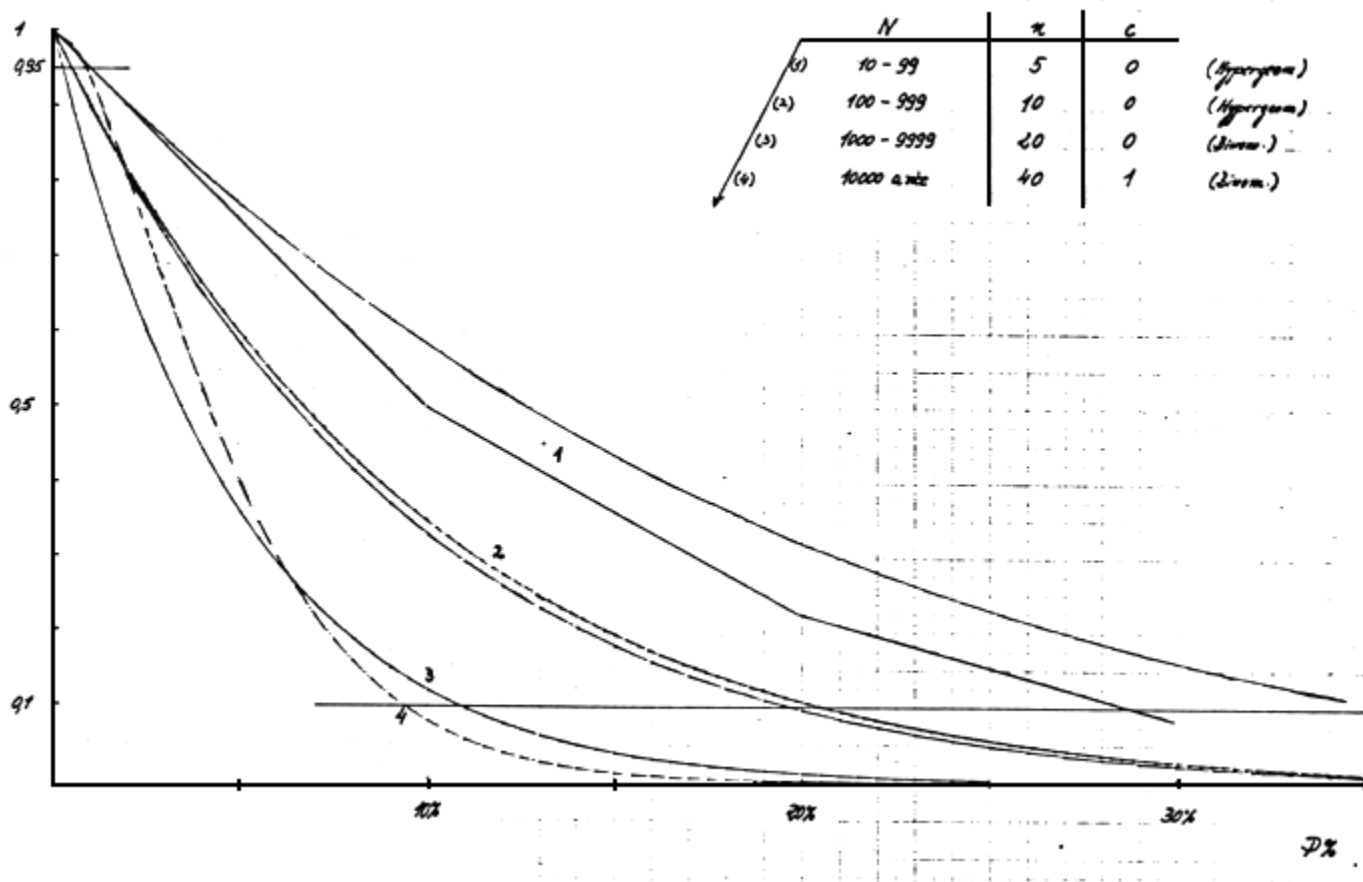
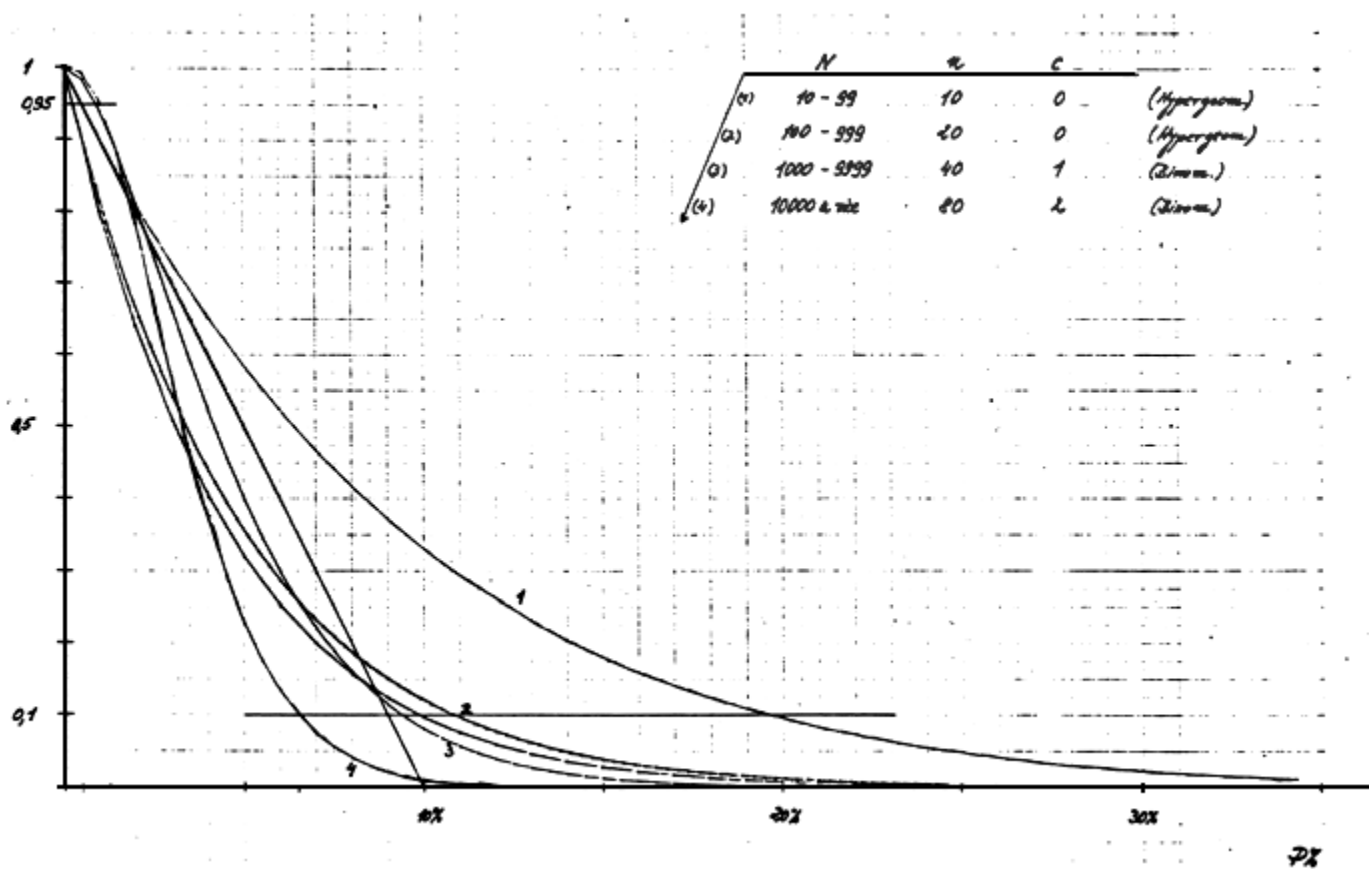


Fig. III



The following reports of earlier sessions in this series have been issued:

First session	Rome, Italy, 8-12 September 1958	(Meeting Report No. 1958/15)
Second session	Rome, Italy, 13-17 April 1959	(Meeting Report No. 1959/AN-2)
Third session	Rome, Italy, 22-26 February 1960	(Meeting Report No. AN 1960/2)
Fourth session	Rome, Italy, 6-10 March 1961	(Meeting Report No. AN 1961/3)
Fifth session	Rome, Italy, 2-6 April 1962	(Meeting Report No. AN 1962/3)
Sixth session	Rome, Italy, 17-21 June 1963	(Meeting Report No. AN 1963/5)
Seventh session	Rome, Italy, 4-8 May 1964	(Meeting Report No. AN 1964/4)
Eighth session	Rome, Italy, 24-29 May 1965	(Meeting Report No. AN 1965/3)
Ninth session	Rome, Italy, 20-25 June 1966	(SP-10/105-9th)
Tenth session	Rome, Italy, 25-31 August 1967	(SP-10/105 - 10th)
Eleventh session	Rome, Italy, 10-15 June 1968	(Cx :5/70-11th)
Twelfth session	Rome, Italy, 7-12 July 1969	(Cx 5/70 - 12th)
Thirteenth session	Rome, Italy, 15-20 June 1970	(Cx 5/70 - 13th)
Fourteenth session	Rome, Italy, 6-11. September 1971	(Cx 5/70 - 14th)
Fifteenth session	Rome, Italy, 25-30 September 1972	(Cx 5/70 - 15th)
Sixteenth session	Rome, Italy, 10-15 September 1973	(Cx 5/70-16th)

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