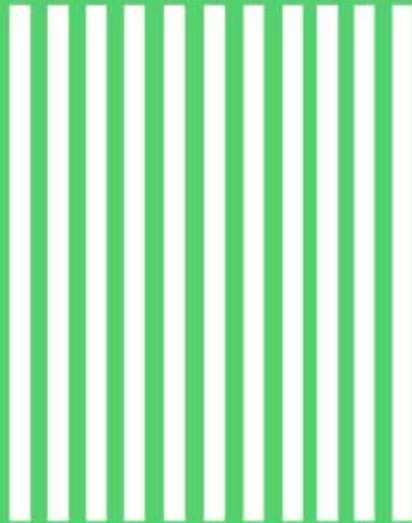


Joint FAO/WHO Food Standards Program

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

Report of the Tenth Session

Held in Rome, Italy, 25-31 August 1967



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

WORLD HEALTH ORGANIZATION

Rome



SP 10/105 – 10th

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

Held at FAO Headquarters
25 – 31 August 1967
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SUMMARY OF POINTS FOR ACTION BY GOVERNMENTS

1. Governments are requested to make their comments available at the latest 15 January 1968. All communications should be sent, if possible, in duplicate and addressed either to the chief, Joint FAO/WHO Food Standards Program, or to the Technical Secretary, Committee on the Code of Principles concerning Milk and Milk Products, Dairy Branch, FAO, Rome.
2. Governments may send observations regarding any matter they would wish to raise. Governments are also reminded that, when preparing a draft international individual cheese standard, they should consult other interested governments on this matter.

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

<ul style="list-style-type: none"> - <u>Standard No. A.2 -Butterfat, Butter-oil (Anhydrous)</u> - <u>"Appellation d'origine"</u> - <u>"Toned Milk"</u> - <u>Determination of the Salt (Sodium Chloride) Content of Butter</u> - <u>Determination of the Fat Content of Evaporated Milks and of Sweetened Condensed Milks</u> - <u>Determination of the Fat Content of Milk</u> 	<ul style="list-style-type: none"> - Governments to comment on the desirability of revising this standard in order to distinguish between: <ul style="list-style-type: none"> (a) products containing less than 0.2 % of water and at least 99.6 % of milk fat, which would be designated 'anhydrous' (b) the other products covered by this standard containing not more than 0.5 % of water and not less than 99.3 % of milk fat. (See paragraph 5 of this Report). - The Governments of France, Italy and Switzerland to study the problem of "Appellation d'origine" in all its aspects and to send a report to the Secretariat. (See paragraph 12 of this Report). - Governments of French and Spanish speaking countries to recommend the most appropriate term for the product in these languages. (See paragraph 19 of this Report) - Submitted to governments for acceptance (See paragraphs 20, 42, 43 (iii) and 52 (vi) of this Report, Appendices IV-D and IV-C and Document 67/7 bis, dated May 1967)
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<ul style="list-style-type: none"> - <u>Determination of the Phosphorous Content of Cheese and Processed Cheese Products</u> - <u>Determination of the Citric Acid Content of Processed Cheese Products</u> - <u>Polarimetric Determination of the Sucrose Content of Sweetened Condensed Milk</u> - <u>International Individual Cheese Standards</u> <ul style="list-style-type: none"> - <u>Cheshire, Emmentaler, Gruyère</u> - <u>Blue Stilton</u> 	<ul style="list-style-type: none"> - Governments to comment. (See paragraphs 20, 52 (i), (ii) and (iii) of this Report and Document MDS 67/7 Appendices I to III, dated April 1967) - Submitted to governments for acceptance (See paragraphs 26 to 28 of this Report and Appendices V-A to V-C) - The Government of the United Kingdom to report on the outcome of the application for the registration of "Blue Stilton" as a certification trade mark, (See paragraph 29 of this Report and Appendix VI)
<ul style="list-style-type: none"> - <u>Tilsiter, Limburger, Saint-Paulin, Svecia, Provolone, Cottage Cheese including Creamed Cottage Cheese</u> <p><u>Drafts of :</u></p> <ul style="list-style-type: none"> - <u>General Standard No. A-8(a) for Process (ed) Cheese and Spreadable Process (ed) Cheese</u> - <u>General Standard No. A-8(b) for Process (ed) Cheese Food</u> <p><u>Standard for Pasteurized Blended Cheese</u></p> <p><u>Standard No. A-3 -Evaporated Milk</u></p>	<ul style="list-style-type: none"> - Governments to comment; with regard to Tilsiter on the possibility of establishing one standard to cover both Havarti and Tilsiter. (See paragraphs 30 to 35 of this Report and Appendices VII-A to VII-F) - Governments to comment; the Governments of French and of German speaking countries to suggest a name for "process (ed) cheese" in these languages; the Government of Spain to suggest names for both "process (ed) cheese" and "spreadable process (ed) cheese" in Spanish. The Governments of French and Spanish speaking countries to suggest a name for "process (ed) cheese food" in these languages. (See paragraphs 36 and 54 to 62 of this Report and Appendices VIII-A to VIII-C) - Governments to submit information on the volume of trade in products with various fat contents. (See paragraph 37 of this Report)

Draft of Standard for Cream

- Standard for Cream Powder

Revision of Standard No. A.5 -Milk Powder

- Governments to comment, and to submit information as to the terminology used in their countries to designate low fat creams. (See paragraph 38 of this Report and Appendix IX)
- Governments to advise :
 - (a) on the suitability of the use of the terms "high fat milk powder" (minimum fat content 40 %) and "cream powder" (minimum fat content 65 %) in order to avoid low fat products "being designated as "cream powder" (see also the designations given in article 2.1 of Standard No. A.5)
 - (b) on the desirability of revising Standard No. A.5 by including the provisions for "high fat milk powder" and "cream powder" or of establishing a new standard for these products.

(See paragraph 38 of this Report)

REPORT
of the
TENTH SESSION
of the

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

Rome, 25-31 August 1967

INTRODUCTION

1. The Tenth 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, 25-31 August 1967. The Session was attended by 89 participants including representatives and observers from 30 countries and observers from 9 organizations (see Appendix I for List of Participants).

2. The Tenth Session of the Joint Committee was convened by the Directors-General of FAO and WHO. The meeting was opened by the Deputy Director-General of FAO, Mr. Oris V. Wells, on behalf of the Directors-General of FAO and WHO. The Committee unanimously elected Mr. Th. C.J.M. Rijssenbeek (Netherlands) as Chairman for the Session, Mr. J.L. Servais (Belgium) and Dr. K.H. Wegener (Federal Republic of Germany) were elected Vice-Chairmen for the Session. The Committee established a Drafting Group to consider standards for processed cheese products (emulsified cheese products) and Dr. J. Bryan Stine (U.S.A.) was elected Chairman of the Group. The Committee also established a Drafting Group to consider standards for cream and cream powder and Dr. C. Schiere (Netherlands) was elected Chairman of the Group.

SECTION I

ACCEPTANCES OF TEE CODE OF PRINCIPLES AND ASSOCIATED STANDARDS

3. 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 now accepted the Code of Principles concerning Milk and Milk Products; 45 governments had accepted the compositional standards for butterfat and evaporated milk; 46 governments had accepted the compositional standards for butter and sweetened condensed milk; 65 governments had accepted the compositional standard for milk powder; 34 governments had accepted the general standard for cheese and 18 governments had accepted the standard for whey cheese. On average some 45 governments had accepted the Methods of Analysis and Sampling for Milk and Milk products,

4. The Committee was informed of the current position regarding acceptances by governments of the international individual cheese standards for Cheddar, Danablu, Danbo, Edam, Gouda, Havarti and Samsøe. This was as follows :

- | | |
|----------------------------|---|
| (a) Cheddar - 16 countries | - Australia, Canada, Denmark, Federal Republic of Germany, Finland, France, Ireland, Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, Trinidad, United Kingdom, U.S.A. |
| (b) Danablu - 10 countries | - Canada, Denmark, Federal Republic of Germany, France, Ireland, Netherlands, Spain, Sweden, Trinidad, United Kingdom |
| (c) Danbo - 12 countries | - Canada, Denmark, Federal Republic of Germany, Finland, France, Ireland, Netherlands, Spain, Sweden, Switzerland, Trinidad, United Kingdom |
| (d) Edam - 14 countries | - Canada, Belgium, Denmark, Finland, France, Ireland, Netherlands, Norway, Spain, Sweden, Switzerland, Trinidad, United Kingdom, U.S.A. |
| (e) Gouda - 12 countries | - Belgium, Canada, Denmark, Finland, France, Ireland, Netherlands, Spain, Switzerland, Trinidad, United Kingdom, U.S.A. |
| (f) Havarti - 9 countries | - Canada, Denmark, Finland, France, Ireland, Spain, Sweden, Trinidad, United Kingdom |
| (g) Samsøe - 12 countries | - Canada, Denmark, Federal Republic of Germany, Finland, France, Ireland, Netherlands, Spain, Sweden, Switzerland, Trinidad, United Kingdom |

During the discussion of the above acceptances the Committee was informed by the delegation of Poland that the Polish Government hoped to be able to communicate its acceptance of the standards for Cheddar, Edam, Gouda, and Havarti by 1969. The Committee agreed that the international individual standards for Cheddar, Danablu, Danbo, Edam, Gouda, Havarti and Samsøe should be published in the Sixth Edition of the Code of Principles and Associated Standards together with full details of

governmental acceptances and information concerning more stringent requirements in respect of any provisions of the standards:

5. At the Ninth Session, IDF, ISO and AOAC pointed out the confusion arising in standard methods of analysis when the terms 'milk fat' and 'butterfat' were used as a commercial description of the product as well as in a chemical sense. Governments were requested to comment on the use of these terms and from the replies received from 15 governments it appeared that the most commonly used term was 'butter-oil'. 'Anhydrous milk fat' was also being used to denote a product containing less than 0.2 % moisture. After a comprehensive discussion, the Committee agreed :

- (i) that Standard No. A.2 - "Milk Fat, Butterfat, Butter-oil (Anhydrous)" should be amended as follows: the term 'milk fat' be deleted in the heading, in the first and second paragraphs, and 'butter-fat' be replaced by 'milk fat' in the penultimate line of paragraph 2, and
- (ii) that governments be requested to comment on the desirability of revising Standard No. A.2 in substance in order to distinguish between :
 - (a) products containing less than 0.2 % of water
and at least 99.6 % of milk fat,
which could be designated 'anhydrous', and
 - (b) the other products covered by the Standard containing
not more than 0.5 % of water
and not less than 99.3 % of milk fat.

REPORT OF THE FOURTH MEETING OF THE FAO/WHO EXPERT PANEL ON MILK QUALITY

6. The Committee had before it the Report of the Fourth Meeting of the FAO/WHO Expert Panel on Milk Quality. The Secretary of the Panel explained that the Report had been approved by the Directors-General of FAO and WHO.

The Committee noted that the Report was primarily a reference document which FAO and WHO were recommending particularly to developing countries to assist them in establishing good hygiene practices in the field of milk and milk products, and to provide useful advice and information on the collection, processing and handling of milk. The Committee noted that the definition, given in the Report, of "milk and milk products fit for human consumption" was only a provisional one. The Committee was of the opinion that until such time as it was suitably developed to cover all aspects of food hygiene which might render a product unfit for human consumption, the definition could not be included in international standards for milk and milk products. The delegation of the Netherlands suggested that the definition should be divided into two parts, (a) definition of milk, and (b) definition of food fit for human consumption. The Committee noted that a first meeting of a WHO Committee of Experts on Food Hygiene (Food Microbiology), which might become a Joint WHO/FAO Committee, would be held in Geneva in October 1967. The Committee emphasized its interest in the proposed activities of the new Committee on Food Microbiology and expressed the wish to be kept informed of developments in the work of that Committee so that the Committee of Government Experts on the Code of Principles would be able to establish hygiene standards for milk products.

EDIBLE ICES

7. The Committee noted that the Codex Alimentarius Commission at its Fourth Session had deferred taking a decision on the establishment of a Codex Committee on Edible Ices. The Committee examined the comments submitted by the Government of Denmark on the procedure proposed for the consideration of standards for these products at its Ninth Session. The Danish delegation expressed the view that the Committee of Government Experts on the Code of Principles should, in conformity with its terms of reference, exclusively deal with the elaboration and publication in the Code of a standard for ices based on milk fat, and recommended that the Codex Alimentarius Commission should establish a standard for edible ices based on non-milk fat. After a re-examination of the procedure contained in paragraph 34 of the Report of the Ninth Session, the Committee decided to revise the text as shown below and requested the Secretariat to place this before the Fifth Session of the Codex Alimentarius Commission in February 1968. The Committee noted that meanwhile the International Dairy Federation was extending the draft standards for ice-cream and milk ices to include particularly provisions for bacteriological tests, hygiene, etc.

8. The amended text of paragraph 34 of the Report of the Ninth Session adopted by the Committee reads as follows :

"The Committee of Government Experts on the Code of Principles would examine, consider and revise, if necessary, the draft standards for ices on a milk fat basis, submitted by IDF. The standards elaborated by this Committee would then be sent by the Secretariat to a Codex Committee on Edible Ices, should the Codex Alimentarius Commission decide to establish such a Committee. Further the standards elaborated by the Codex Committee on Edible Ices should be submitted by the Secretariat to the Committee of Government Experts on the Code of Principles concerning Milk and Milk Products at Steps 3 and 6 of the Commission's Procedure for the Elaboration of World-Wide Standards, particularly to ensure that the proposed standards are in conformity with the Code of Principles."

CHAIRMANSHIP OF THE COMMITTEE OF GOVERNMENT EXPERTS ON THE CODE OF PRINCIPLES CONCERNING MILK AND MILK PRODUCTS

9. The Committee examined a suggestion of the Executive Committee of the Codex Alimentarius Commission that an arrangement might be adopted under the Commission's Rules of Procedure for a Chairman and Vice-Chairmen to be elected at the end of each session of the Committee to serve as officers of the Committee until the end of the next session. The Committee agreed to institute these arrangements and unanimously elected Mr. Th. C.J.M. Rijssenbeek (Netherlands) to serve as Chairman and Mr. J.L. Servais (Belgium) and Mr. F.E. Fenton (U.S.A.) to serve as First Vice-Chairman and Second Vice-Chairman respectively until the end of the Eleventh Session. Later on in the Session, several delegations stated that they would wish the Committee to maintain its established custom of electing its Chairman by observing a yearly rotation between Member Countries.

GENERAL ISSUES CONCERNING INTERNATIONAL INDIVIDUAL CHEESE STANDARDS COMMON LAYOUT FOR STANDARDS FOR MILK PRODUCTS

10. The Committee had before it a draft format for Codex commodity standards which had been drawn up by the Executive Committee of the Codex Alimentarius Commission. The Committee was informed that this draft format would be examined at

the next session of the Codex Committee on General Principles, to be held in Paris from 16-20 October 1967, and that the recommendations of that Committee in regard to the draft format would be placed before the Fifth Session of the Codex Alimentarius Commission, to be held in Rome in February 1968. The Committee also had before it Standards A.1 to A.6, and the International Individual Standard for Cheddar, presented in accordance with the proposed new layout, in order to illustrate to what extent the proposed new layout might be suitable for standards for milk and milk products. The Committee welcomed this proposal to introduce uniformity in the presentation of standards, noting, however, that only those headings in the proposed layout which were applicable to milk products, or in respect of which the Committee was in a position to make recommendations, should be completed. Countries were invited to send to the Secretariat their comments on the suitability of the proposed new layout for milk products as quickly as possible for consideration at the next session of the Codex Committee on General Principles which will be held in Paris from 16 to 20 October 1967.

CHEESES WITH DIFFERENT DESIGNATIONS BUT ALMOST IDENTICAL CHARACTERISTICS, GROUP NAMES FOR CHEESE VARIETIES

11. The Committee discussed the question of the feasibility of establishing group names for cheeses with different designations but almost identical characteristics. While the Committee considered that for certain cheeses, as for example the "blue veined cheeses, it would probably be possible to establish group names, the question arose whether the establishment of group names would serve a useful purpose. A delegation expressed the view that it would be useful to establish group names as far as possible for the guidance of consumers and drew attention to the fact that the IDF was working in this field and that the EEC (Draft) Regulations for Cheeses contained group names. It also expressed the view that the possibility of the grouping of cheeses on an organoleptic basis in the future should be examined by the Committee.

APPELLATION D'ORIGINE

12. The Committee again considered the question of "appellation d'origine" in the light of a background paper on the subject, which had been prepared by the Secretariat, and of comments received from a number of governments. The problem posed by cheeses having an "appellation d'origine" was seen by different delegations in different ways. The following opinions were put forward :

- a) If a country, which accorded an "appellation d'origine" to a cheese, did not wish it to be the subject of an international cheese standard, it should be required to show that the variety in question was different in certain respects from a variety claimed to be the same produced in other countries. On the other hand, other delegations felt that if a country wished to have an international standard established for a cheese to which an "appellation d'origine" had been accorded, it would be up to that country to prove that the product in question was identical to that accorded the "appellation d'origine". As the distinction would be based on organoleptic properties, the setting up of a panel might be envisaged to determine whether a distinction in taste could be established. Essentially, it would be necessary to establish that the cheese having an "appellation d'origine" was a special cheese which could not be produced outside the district or region of origin and be the same in every respect.

- b) The problem was essentially a legal one, bearing in mind existing international conventions, and was outside the competence of the Committee.
- c) Notwithstanding the fact that legal protection is afforded in certain countries to certain cheese varieties under "appellation d'origine", international standards should be established if such varieties are produced in other countries.
- d) No problem arose where a cheese having an "appellation d'origine" was not produced outside the region concerned. Where the cheese was produced outside the country of origin, the Committee should decide whether it was prepared to confer on countries originating a variety of cheese the right of veto on applications submitted by other countries for that variety.

After a full discussion, the Committee accepted a proposal of the delegations of France, Italy and Switzerland that they would propose to their Governments that experts from these three countries should meet to study the problem in all its aspects, and that the detailed report of these experts would be sent to the Secretariat for distribution well in advance of the next session of the Committee. In the meantime, the Committee agreed not to depart from its position on the subject of "appellation d'origine", as set out in paragraphs 9 and 10 of the Report of its last session. In line with this decision, the Committee agreed that no action should be taken by the Secretariat before the next session with regard to current applications for international individual cheese standards for cheeses having an "appellation d'origine", where the country of origin was not ready to join in sponsoring the application.

PROCEDURE FOR THE ELABORATION OF INTERNATIONAL STANDARDS FOR MILK PRODUCTS

13. The Committee expressed its appreciation of the cooperation and assistance lent to it by the International Dairy Federation over the years in the Committee's work of elaborating international standards for milk products, noting that without this cooperation and assistance it would not have been possible to achieve the rate of progress made in this field. The Committee was of the opinion that work of a controversial nature had been able to progress more rapidly and smoothly when it had established clearly defined procedures for the elaboration of standards, such as that for the elaboration of international individual cheese standards and that for elaborating and publishing methods of sampling and analysis. The Committee agreed therefore to establish such a procedure for the elaboration of international standards for other milk products, and this procedure is set out in Appendix II-A.

PROCEDURE FOR ELABORATING AND PUBLISHING METHODS OF SAMPLING AND ANALYSIS

14. The Committee agreed that an additional clause should be inserted between (f) and (g) of the Procedure for Elaborating and Publishing Methods of Sampling and Analysis (Report of the Ninth Session of the Committee, Appendix B), to the effect that the final version of the method referred to in (f) of the Procedure be placed before the Committee for approval before being submitted to all FAO and WHO Member Governments for acceptance. This procedure is set out in Appendix III.

STATEMENT BY THE CHAIRMAN OF THE CODEX ALIMENTARIUS COMMISSION

15. The Committee welcomed the presence of Professor M.J.L. Dols, the Chairman of the Codex Alimentarius Commission, who congratulated the Committee on the excellent progress it had made in its work to date. He referred to the particular role which the Committee played within the framework of the Codex Alimentarius Commission, noting that the Committee had been set up prior to the establishment of the Commission. He emphasized the fact that the Codex Alimentarius Commission had greatly benefited in its work from the experience of the Committee, and assured the Committee of the Commission's desire to meet the needs of the Committee within the framework of the Rules of Procedure of the Commission. He invited the Committee to express its views as to the meaning of acceptance of standards in the light of its long experience.

THE MEANING OF ACCEPTANCE OF STANDARDS

16. The Committee discussed the meaning of the acceptance of standards in the light of an information paper on the subject which had been prepared by the Secretariat, and which indicated, inter alia, that at the Fourth Session of the Codex Alimentarius Commission the French delegation had questioned whether the obligations of governments on accepting the standards under the Code of Principles were the same as for the acceptance of standards under the General Principles of the Codex Alimentarius. The Committee was informed that the Codex Committee on General Principles would be discussing the meaning of the acceptance of Codex standards at its next session, to be held in Paris from 16 to 20 October 1967. and that in order to enable the Codex Committee on General Principles to consider the meaning of acceptance in the fullest possible way, it was desirable that the Committee of Government Experts on the Code of Principles concerning Milk and Milk Products should indicate its views as to the meaning of acceptance of standards under the Code of Principles. The Committee agreed that, unlike standards elaborated under the Code of Principles, the Code of Principles itself could not be regarded as a standard, in the context of acceptance. The following views were put forward :

(a) Full Acceptance

The Committee agreed that full acceptance in the sense of adjusting national legislation to international standards would be the ideal form of acceptance since, if a considerable number of countries were to accept international standards in their entirety, trade difficulties would be minimized.

(b) Target Acceptance

The Committee noted that target acceptance was not intended to meet the case of a country which would take a comparatively short period to amend its existing law but rather that of a country whose economy and general food law were not sufficiently advanced to enact all the provisions of a standard, but which could accept the standard as far as it would not prevent the import of products conforming to the standard, with the intention of passing to full acceptance in a stated number of years. There was no question of setting a time limit within which countries must accept a standard.

(c) Acceptance with a Declaration of More Stringent Requirements

(i) Article 6.4 of the Code of Principles would not prevent a country which had accepted a standard under the Code from applying more stringent

requirements subsequent to acceptance. This was a matter which should be examined.

- (ii) It would be useful to make it clear in paragraph 4 (a) (iii) of the General Principles of the Codex Alimentarius (text of proposed amendment to paragraph 4) regarding acceptance of Codex standards, that only products complying with the more stringent requirements could pass in the trade of the country concerned.

17. As regards the individual cheese standards, the Committee noted that they included optional provisions on methods of manufacture which could not be made subject to legal enforcement. The Committee agreed that Article 2.1.3 of the Procedure for Establishing International Individual Cheese Standards (Report of the Seventh Session of the Committee):

"The method of manufacture shall be as outlined in the standard or such other method, if any, which produces a cheese having the same physical, chemical and organoleptic properties as the cheese produced when the procedure outlined in the standard is used."

should be included in the revised Procedure as set out in Appendix III (a) of the Report of the Ninth Session of the Committee (see Appendix II-B of this Report).

18. The Committee emphasized the need for flexibility as regards interpreting the meaning of the acceptance of standards. The Committee noted that it had used a procedure, at least as far as the Code itself was concerned, which permitted the Committee to allow a particular country to continue a deviation from the Code even when fully accepting it, and to confirm a particular country's interpretation of the Code in its own circumstances.

TONED MILK

19. The attention of the Committee was drawn to the following definition

"Toned Milk

Toning can be defined as the addition of reconstituted skim milk to locally-produced milk in order to reduce its fat content to a predetermined standard while maintaining or increasing the contents of solids-not-fat."

(Extract from the Report of the Second Meeting of the Joint FAO/WHO Expert Committee on Milk Hygiene, Rome 1960, page 49)• As there appears to be no equivalent term in French and Spanish, the governments concerned were invited to recommend the most appropriate term for the product in these languages.

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

20. The Committee approved the Report of the Meeting of Representatives of IDF, ISO, and AOAC which had been held immediately prior to the Tenth Session of the Committee. The Report is contained in Section II of this Report. It was agreed that the edited texts of the following methods, which are to replace the existing standards B.3 and B.2 respectively, should be attached to the Report for the information of governments :

- (i) Determination of Fat Content of Cheese and Processed Cheese Products
- (ii) Determination of Fat Content of Dried Milk

The Committee also accepted the recommendation of the three organizations to include in the application form for international individual cheese standards prescriptions for specific techniques for the preparation of cheese samples for analysis.

FOOD ADDITIVES II MILK PRODUCTS

21. The Committee agreed that annatto (Colour index (1956) Ho. 75120) and turmeric (Colour Index (1956) No. 75300), otherwise known as curcumin, should be permitted in butter, the latter as it is often used associated with annatto.

Neutralizing salts in butter

22. The Committee agreed that sodium ortho-phosphates, sodium Carbonate, sodium bicarbonate, and sodium and calcium hydroxide singly or in combination, could be permitted in butter to a maximum of 0.2 %. The Committee agreed to this use for the pH adjustment of cream used to make any butter and also for direct use in salted butters, since this use may be needed when butter is to be shipped and stored for long periods of time. The Committee noted that IDF was working on this subject and would soon communicate its views to the Committee.

Food additives in cheese

23. The Committee considered first the food additives for which there was an indication of use in several countries, and examined these additives in detail. The Committee agreed that the following additives could appear in the general standard for cheese and that, in addition, to cover the cases where individual cheeses differ from the general standard for cheese, the following phrase should be inserted in the general standard "and any other additives permitted in an individual cheese standard".

(a) Calcium chloride

The Committee agreed that this additive could be used in all cheeses up to the level of 0.2 g per litre or Kg of milk.

(b) Colouring agents of vegetable origin

The Committee likewise agreed that annatto and carotene could be authorized generally for cheeses and indicated that a maximum level of approximately 0.06 % would probably cover all possible uses. It was also suggested that chlorophylls (Colour Index (1956) No. 75810) be included in the general standard, the attention of the Codex Committee on Food Additives being drawn to the inclusion of copper chlorophyll in this designation.

24. Certain delegates indicated their opposition to one or more of the following additives but the Committee agreed to give the Codex Committee on Food Additives as detailed information as possible on all additives in cheese, whether or not they met with unanimous approval. The Committee agreed that it would be possible to indicate the use of a given additive in certain groups of cheeses. The following additives were referred to the Codex Committee on Food Additives, with the accompanying comments :

(a) Sodium and potassium nitrate

The Committee indicated that a maximum level of this salt per litre or Kg of milk should be 0.2 g for the cheeses in which nitrate is used. The Committee was informed that the presence of nitrosamin in cheeses did not seem to be a function of the nitrate in cheese but probably of the microflora. The Committee concluded that there may be no objection to the use of nitrate on this basis. The cheeses in which nitrate may be used include Danablu, Danbo, Edam, Gouda,

- Havarti, Jarlsberg, Limburger, Nöckel, Nordbo, Norwegia, Samsøe, Svevia, Steinbuscher, Tilsiter, and do not include non-matured cheeses and cheeses of the Cheddar type.
- (b) Potassium chlorate
- The delegations of Sweden, Norway and Finland requested the use of this salt at a level of 0.1 g per litre or Kg of milk in the production of some propionic fermentation cheeses produced in their countries.
- (c) Sorbic acid and its salts
- The Committee indicated that a suitable figure would be 0.3 % on the total cheese for the use of this mold inhibitor in the surface treatment of cheeses. In the case of whey cheeses sorbic acid is used in the cheese itself at a level of 0.1 % and this use was also referred to the Codex Committee on Food Additives.
- (d) Propionic acid and its salts
- This mold inhibitor appears to be used in fresh cheese as well as in processed cheese, which was not under consideration at this time in the enumeration of additives in cheese. The maximum level recommended was 0.3 %. It was agreed that the total of sorbic and propionic acids or their salts as mold inhibitors should be the same, that is 0.3 %, as the sum of all the substances, determined as the acids.
- (e) Nisin
- Consideration was requested for the use of this product in the production of processed and fresh cheeses to the extent of 500 Heading units per gram.
- (f) Pimaricin
- A 500 parts per million solution of this surface treatment agent as a mold inhibitor of cheese is used as a dip for the cheese. The Committee agreed that this additive should likewise be considered by the Codex Committee on Food Additives.
- (g) Alginates and vegetable gums
- These substances are used in fresh and soft cheeses in some countries, at the 0.5 % level.
- (h) Lecithin
- This emulsifier is used in soft and "quark" type cheeses at a level of less than 0.5 %.
- (i) Smoke
- Smoke and condensed smoke are used in various cheeses and soft cheese products. The question of the presence of possible carcinogens was brought to the attention of the Codex Committee on Food Additives in connection with the use of this material in these and other products.
- (j) As well as the compounds listed above, the Committee referred to the Codex Committee on Food Additives for their consideration as a matter of lower priority the enumeration in Document MDS 67/H, Part II - Addendum, paragraph 2, of the additives to cheeses permitted only in one country.

SUBSTANCES NOT RECOMMENDED TO THE CODEX COMMITTEE ON FOOD
ADDITIVES FOR CONSIDERATION

25.

- (a) The Committee agreed that seasonings and flavourings should be considered as ingredients and not as additives in cheeses.
- (b) It was also agreed that the list of additives should not deal for the time being with suitable and safe coatings for cheese and colours for stamping cheeses. It was pointed out that the present program of work of the Codex Committee on Food Additives did not include these substances and that therefore it would be premature for the Committee of Government Experts on the Code of Principles to consider these substances at this time.
- (c) The Committee did not recommend the consideration of the hydrogen peroxide-catalase process for the treatment of milk to be used in cheese since it had limited application as an alternative process and involved the use of a food additive (hydrogen peroxide) which the Joint FAO/WHO Expert Committee on Food Additives had restricted in use to cases of absolute necessity.

INTERNATIONAL INDIVIDUAL CHEESE STANDARDS *)

*) The revised texts of the standards are contained in Appendices V-A to V-C, VI and VII-A to VII-F, respectively, of the Report.

Cheshire

26. After making minor editorial amendments to the standard for Cheshire as proposed in the comments from governments, the Committee approved the standard for Cheshire at Step 6 of the Committee's Procedure for the Elaboration of Standards and decided that it should be sent to governments for acceptance.

Emmentaler

27. The Committee approved the standard for Emmentaler at Step 6 of the Committee's Procedure for the Elaboration of Standards and decided that the text as revised with the following amendments should be sent to governments for acceptance :
- 2. Depositing countries : add "France"
 - 3.2.2 **) "Rennet with or without pepsin" should be replaced by :
 - 5.1 | "Rennet or other suitable coagulating enzymes"
 - 3.3.1 Should read "Calcium chloride max. 0.02 % by weight of the milk"
 - 3.3.2 Should read "Cupric sulfate max. 15 p.p.m., expressed as copper in the cheese"
 - 3.3.3 Should read "Sodium and potassium chlorate max. 100 p.p.m. in the cheese"
 - 4.9.2 Ready for consumption should read : "minimum of 60 days from day of manufacture"
 - 5.3 Fermentation procedure should read s "lactic acid fermentation and propionic acid fermentation taking place throughout the cheese at 20 C minimum, for a minimum of 3 weeks".

Gruyère

28. The Committee approved the standard for Gruyère at Step 6 of the Committee's Procedure for the Elaboration of Standards and decided that the text as revised with the following amendments should be sent to governments for acceptance.

3.2.2 ** | "Rennet" should be replaced by "Rennet or other suitable coagulating
5.1 | enzymes"

**) See under 3.2.1, "Necessary additions" in the texts as set out in Appendices V-B and V-C respectively.

5.3 Fermentation procedure should read : lactic acid fermentation and propionic acid fermentation taking place throughout the cheese at 14 C, minimum, for a minimum of 4 weeks.'

Blue Stilton

29. The Committee approved the standard for Blue Stilton at Step 6 of the Committee's Procedure for the Elaboration of Standards but deferred sending the standard for acceptance to governments pending a report to be made by the delegation of the United Kingdom to the Committee's next session on the outcome of an application which had been made by the producers of the cheese in the United Kingdom for the registration of "Blue Stilton" as a certification trade mark having reserved use for their production.

Tilsiter

30. The Committee discussed whether the proposed draft standard for Tilsiter and the standard for Havarti should be grouped into one standard with Havarti and Tilsiter as synonymous designations. The Committee considered the technical advice submitted by IDF that it was not possible effectively to distinguish compositionally between cheeses sold under these designations. The delegation of Denmark stressed that the standard for Havarti had already been accepted by nine countries, that there were real and significant differences between the texts of the two standards and emphasized that it would only be possible to examine proposals for the grouping of the standards for these and possibly other cheeses into one standard when the standard proposed for Tilsiter had reached a more advanced stage of elaboration. A number of other delegations were of the opinion that no real or significant differences existed between cheeses designated as Havarti and Tilsiter and that one standard should be elaborated for these cheeses. The Committee agreed that the proposed draft standard for Tilsiter should be sent to governments for comments and that governments should be specifically requested to comment on the possibility of establishing one standard to cover both Havarti and Tilsiter.

Limburger

31. The Committee examined the draft standard for Limburger and decided that the text as revised with the following amendments should be sent to governments for comments :

3.2.1 Necessary additions : "rennet" should be replaced by "rennet or other suitable coagulating enzymes", "salt" by "sodium chloride"

3.2.2. Optional additions : "enzymes" should be replaced by "safe and suitable enzymes"

- 4.7 Minimum fat content in the dry matter and maximum moisture content::
- 4.8 Block B and block E should be deleted. In block F the figures for maximum moisture and minimum dry matter content should read 52 % and 48 % respectively.
- 5.5.1 Should read "Salted from the surface "before curing or salted in "brine"
- 6. Sampling technique should read : "according to Standard B-I, paragraphs 7.2(a) or 7.2.(o)
- 7. Marking and labelling : it was agreed that only "F" (50 %) should not bear a prefix.

Saint Paulin

32. The Committee examined the draft standard for Saint Paulin and decided that the text as revised with the following amendments should be sent to governments for comments :

- 3.2 Authorized additions : "rennet" should be replaced by "rennet or other suitable coagulating enzymes". It was agreed that the "vegetable colouring matters" should be specified and that "[sodium and potassium nitrate]" should be inserted in square brackets in order to draw the attention of governments to the question of whether the use of this additive was technologically necessary.
- 4.1.2 Short description : the penultimate sentence should be deleted.
- 4.2.1 Usual shape should read : "small round loaf with slightly protruding sides (flat cylinder), whole or cut in sectors".
- 4.7 Concerning the minimum fat in dry matter of 40 %, the Committee was informed that cheese with this fat content was traded only in limited quantities and that the French industry would be asked to consider the proposal to specify the fat content of the cheese which would be named "Saint Paulin", only without a prefix or a suffix.
- 6. Sampling and Analysis : it was agreed that the Secretariat should redraft this chapter on the basis of the Methods of Sampling and Analysis of the Code of Principles.

Svecia

33. The Committee examined the draft standard for Svecia and decided that the text as revised with the following amendments should be sent to governments for comments:

- 3.2.2 Optional additions : "saltpetre" should be replaced by "potassium nitrate and sodium nitrate"
- 4.7 As to the minimum fat contents in dry matter listed, the Swedish delegation was asked to provide the Committee with information as to the fat content which Sweden would regard as typical of the variety.
- 6. Sampling and Analysis : the statement as agreed for Saint Paulin applies.

Provolone

34. The Committee examined the draft standard for Provolone and decided that the draft as amended in accordance with the following should be sent to governments for comments :

- 3.2.1 Necessary additions : "rennet" should be replaced by "rennet or other suitable coagulating enzymes"
- 3.2.2 The Committee noted that the depositing countries (Italy, the United States of America) would supply information as to the artificial blue or green colours used.
- 4.8 Maximum moisture content : 47 %, or minimum dry matter content : 53 % (tentative)
- 5.3 Fermentation procedure : "the milk is subjected to the action of lactic acid produced by "bacteria present in the milk or added as a starter thereto. After the proper ripening period is reached, rennet or another suitable enzyme is added to coagulate the milk".
- 5.4 Maturation procedure : "the coagulated curd is cut, stirred and heated to promote and regulate the separation of whey from the curd. The whey is drained off, the curd is matted and cut immersed in hot water and kneaded and stretched until it is smooth and free from lumps. The curd is then cut and placed in molds. During molding the surface is kept warm to properly seal the surface. The molded curd is then firmed by immersion in cold water before salting".
- 5.5 Other essential characteristics : the following should be inserted before the last sentence : "Some shapes may be encased in ropes or twine before drying. The surface may be paraffined or waxed."

Cottage Cheese, including Creamed Cottage Cheese

35. The Committee discussed the draft standards for Cottage Cheese and Creamed Cottage Cheese. The Committee agreed that it would be useful if the two draft standards could be combined in a single standard, and the delegation of the United Kingdom was requested to undertake this task. That delegation submitted to the Committee a draft standard covering both products, and the Committee agreed that the draft standard, which is set out in Appendix VII-F, should be sent to governments for comments. As regards the section of the draft entitled "Marking and Labelling", the Committee agreed that Governments should be asked to consider whether a provision should be inserted advising that labels should include a statement on the desirability of keeping the product under refrigeration. Certain delegations felt that the designation "creamed" was inappropriate in view of its low fat content.

STANDARDS FOR PROCESS (ED) CHEESE PRODUCTS

36. The Drafting Group set up by the Committee in order to elaborate draft standards for process (ed) cheese products met on 26 and 27 August 1967, under the chairmanship of Dr. J.B. Stine (U.S.A.). In presenting the Report of the Drafting Group to the Committee (contained in Section III to this Report), the Chairman of the Group indicated that the Group had been asked by the Committee to draw up draft standards for cheese products falling into the following four main categories :

- (a) process (ed) cheese made wholly from cheese with emulsifiers;

- (b) process (ed) cheese with other ingredients in addition to emulsifiers;
- (c) non-emulsified pasteurized blended cheese;
- (d) non-emulsified pasteurized blended cheese containing other foods.

The Chairman informed the Group that first draft standards had been elaborated for the products covered in (a), (b) and (c) above. As regards (d), non-emulsified pasteurized blended cheese containing other foods, the Chairman of the Group indicated that to the best knowledge of the Group such a product was not on the market, and that there was therefore no need for a standard. The Chairman of the Group emphasized that while it should not be taken that all the members of the Group agreed with the entirety of the contents of the three first draft standards, nevertheless the Group was of the opinion that the three texts were suitable for issue to governments for comments. The Chairman of the Group stressed that the draft standard which had been proposed by the International Dairy Federation for process (ed) cheese and spread able process (ed) cheese, together with a draft standard which had been proposed by the United States delegation for process (ed) cheese, process (ed) cheese foods and spreads and pasteurized blended cheese, had been of great assistance to the Group in the discussions leading to the three first draft standards. The Committee agreed that the three draft Standards should be sent out to governments for their comments. The Spanish delegation indicated that it was not able to participate as fully as it would have wished in the discussions of the Drafting Group by reason of the fact that only limited interpretation facilities in Spanish could be made available to the Group.

MINIMUM FAT AND TOTAL MILK SOLIDS CONTENT OF EVAPORATED MILK (STANDARD NO. A.3)

37. The Committee noted that seven countries (Australia, Belgium, Netherlands, India, Poland, the United Kingdom and U.S.A.) were in favour of raising the minimum fat and total milk solids content of evaporated milk to 7.8 % and 25.9 % respectively. A number of these countries indicated however that no action should be taken to implement the proposal before 1969. In addition, five countries (Canada, Denmark, Ireland, Sweden and Trinidad) indicated that they had no objections to the proposal. Norway and Thailand indicated that they would accept 7.8 % fat content, but would not accept 25.9 % milk solids content. The following were opposed to the proposal : Federal Republic of Germany, France, Spain and Switzerland. The delegation of New Zealand stated that while it had no reason to favour a change it would be prepared to give the proposal further consideration. The Committee agreed to re-examine this question at its next session in the light of further consideration of the volume of trade in products of various fat contents.

STANDARDS FOR CREAM AND CREAM POWDER

38. Dr. Schiere (Netherlands) presented the report of a Drafting Group composed of experts from eight countries (Australia, Canada, Denmark, Federal Republic of Germany, New Zealand, Spain, Switzerland and U.S.A.) and from the International Dairy Federation, which met under his chairmanship on 27 August 1967 to consider standards for cream and cream powder on the basis of IDF drafts and of a working paper prepared by the United States delegation.

As to the standard for Cream, the Committee was informed that the Group did not insert any provisions on sterilized cream in their draft in the absence of a clear definition of the meaning of the term "sterilized", and the Committee agreed that IDF should be requested to provide such a definition. The Chairman of the Group further indicated that

it was thought that the designation "cream" should be reserved for products containing not less than 18 % milk fat, but that the Group recognized that there were products such as "half and half", "half cream", "Kaffeesahne", etc., containing only 10-18 % of milk fat. The Group was of the opinion that these products should be covered by the standard provided that they were labelled in such a way as to give the consumer clear information as to the low fat content of these products. The Committee discussed the draft standard prepared by the Group and made certain amendments thereto. The text as amended by the Committee is given in Appendix IX and the Committee agreed that it should be sent to governments for comments. The Committee also agreed that in submitting their comments, governments should be asked to give information as to the terminology used in their countries to designate low fat creams (reference to cream "appropriately qualified" in the draft standard).

As regards the draft standard which the Group considered for Cream Powder, the Chairman of the Group informed the Committee of the Group's suggestion to distinguish between "high fat milk powder" with a minimum fat content of 40 % and "cream powder" with a minimum fat content of 65 % in order to avoid low fat products being designated as "cream powder". The Committee agreed that the attention of government's should be drawn particularly to the suitability of the use of these terms and accepted the following definition :

"High fat milk powder and cream powder are the milk products obtained by the removal of water only from milk fat enriched milk or from cream".

The Committee further agreed with the Group's proposal to specify a maximum water content of 5 % for these products and to allow the same food additives as in Standard A.5.

The Committee decided to seek the views of governments on whether it would be desirable to revise Standard A.5 by including the provisions for "high fat milk powder" and "cream powder" or to establish a new standard for these products. The Committee agreed that the attention of Governments should also be drawn to the designations proposed by the Group and to those given in article 2.1 of Standard A.5.

PROGRAM OF FUTURE WORK

39. The Committee considered the program of future work as outlined by the Secretariat, as well as additional suggestions put forward by several delegations. The Committee agreed that, in addition to the work already undertaken or envisaged, the following items should appear on the Agenda for the next session .

- (a) IDF draft standards and reports on international individual cheese standards for Brie, Butterkäse, Coulommiers, Gudbrandsdalsost, Hartz, Herrgårdsost, Hushållsost, Mimolette, Norwegia (Step 2 of the Procedure for the Elaboration of International Individual Cheese Standards). Attention was drawn to the fact that the country of origin should invite interested countries, if any, to elaborate a joint application.
- (b) Re-examination of the General Standard for Cheese, No. A.6 (1961). A list of cheeses for which it is not clear whether they are covered by this standard, prepared by the IDF, will be made available to the Secretariat, with appropriate comments, well in advance of the next session of the Committee.
- (c) Consideration of the question whether the procedure for the revision of the substance of standards adopted under the Code of Principles should not be the

same as that for the Elaboration and Acceptance of Standards for Milk and Milk Products.

- (d) Consideration of the question of including provisions for high fat milk powder and cream powder in the Standard on Milk Powder, No. A.5 (1962).
- (e) Consideration of the expected IDF Draft Standard on Fermented Milks. The standard will probably be sent to the Secretariat by the IDF in September 1967.
- (f) Consideration of an IDF Draft Standard on Casein which would be submitted as soon as possible to the Secretariat by the IDF.
- (g) Consideration of the definition of the terms "Sterilized Cream" and "Pasteurized Milk" (the latter in connection with cheesemaking), which will be submitted to the Secretariat by the IDF.
- (h) Information on methods for the determination of coliforms in milk and milk products and the total bacterial count in milk powder, the texts of which, as far as available, will be sent to the Secretariat by the IDF after due consultation with ISO and AOAC in line with the Procedure followed by the three Organizations for the elaboration of Standards for Sampling and Analysis.
- (i) Consideration of the possibility of having a declaration on labels or containers for products covered by a standard, which would indicate that the product conforms to the standard, with the object of informing the consumer of this fact, and to give more publicity to the Committee's activities.

DATE OF THE NEXT SESSION

40. The Committee agreed that it would be most convenient if the next session could be arranged to take place in June 1968.

SECTION II

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

41. Representatives of the three Organizations met in Rome on Thursday, 24 August 1967, to discuss analytical standards required in connection with the Code of Principles concerning Milk and Milk Products.

Present :

Dr. A. Charpentier (Chairman),	FAO
Prof. Dr. J. Pien (Technical President)	
Prof. Dr. J. Casalis	IDF
Mr. P. Staal	IDF
Dr. N.N. Chopra	ISO
Dr. J.G. van Ginkel	ISO
Mr. S. Boelsma	ISO
Dr. R. Weik	AOAC
Dr. R. Tentoni	FAO
Dr. F. Winkelmann	FAO

The results of the discussions are given in the following sections of the Report.

Determination of Salt Content of Butter

42. The three Organizations agreed on the final version of the method and transmitted a copy to the Secretariat for submission to all FAO and WHO Member Governments for acceptance (Step (g) of the Procedure for Elaborating and Publishing Methods of Sampling and Analysis). (See Appendix IV-D to the Report).

Determination of Fat Content of

43. i) Cheese and Processed Cheese Products
ii) Dried Milk

The texts of these methods were edited by the three Organizations to conform to the layout recommended by ISO for the presentation of standards of analysis in line with the request of the Joint FAO/WHO Committee of Government Experts on the Code of Principles concerning Milk and Milk Products put forward at the Ninth Session (Report of the Ninth Session, paragraph 63). These texts can now replace the existing standards B.3 and B.2 respectively in further editions of the Code. (See Appendices IV-A and IV-B to the Report).

- iii) Evaporated Milks and Sweetened Condensed Milks

The three Organizations agreed on the final version of the method and transmitted a copy to the Secretariat for submission to all FAO and WHO Member Governments for acceptance Step (g) of the Procedure for Elaborating and Publishing Methods of Sampling and Analysis). (See Appendix IV-C to the Report),

As far as sweetened condensed milk is concerned, further investigations will be carried out to determine whether under certain special conditions the fat is completely extracted by the method submitted.

Determination of Water, Solids-Not-Fat and Fat Content of Butter on One Test Portion

44. After a comprehensive discussion, the representatives of the three Organizations agreed on some revisions of the text of the method proposed by IDF. This text has still to be considered by IDF at its 52nd Annual Session in Tel Aviv.

Determination of Iodine Value

45. The three Organizations expect to submit to the Secretariat a finally agreed method before the next session of the Committee.

Determination of Water Content of Milk Products (Karl Fischer Method)

46. ISO was commended on its excellent contribution on this subject. The three Organizations would give their views to ISO on its proposals, and it was expected that a method would be available for submittance to the Committee within a year or two.

Determination of Fat Content of Whey Cheese

47. The three Organizations expect to submit a finally agreed method based on the Röse-Gottlieb method to the Secretariat before the next session of the Committee.

Determination of Dry Matter Content of Whey Cheese

48. It was agreed that this problem will be considered in connection with the dry matter determination of cheese.

Sampling of Whey Cheese

49. It was agreed that no special sampling procedure should be established for Whey Cheese as the relevant paragraph for cheese in Standard B.1 is also applicable to whey cheese.

Butter-oil

50. It is recommended to use the terms "butter-oil" or "anhydrous milk fat" only in Standard No. A.2, i.e. to delete other terms : "butterfat (anhydrous)" and "anhydrous" as far as "butter-oil is concerned. *)

*) Remark by the Secretariat : this recommendation did not entirely meet with the approval of the Committee (see paragraph 5 of the Report).

Application Form for International Individual Cheese Standards

51. The three Organizations recommend that in the application form the following provisions should be included :

Sampling

Refer to the applicable clauses in paragraph 7 of Standard No. B.1. State any deviation or any further detailed technique only is so far as it is specific to the cheese variety.

Analysis

Refer to the applicable analytical standard (s) under the Code of Principles.

Preparation of the sample

Refer to clause 7.4 of Standard Ho. B.1 or state any deviating procedure which is specific to the cheese variety.

Determination of

52. i) Phosphorus Content of Cheese and Processed Cheese Products
ii) Citric Acid Content of Processed Cheese Products
iii) Sucrose Content of Sweetened Condensed Milk (Polarimetric)

These methods have been agreed in principle by the three Organizations and were submitted to governments for comments (Document MDS 67/7) (Step (d) of the Procedure for Elaborating and Publishing of Methods of Sampling and Analysis).

- iv) Acid Value of Fat from Butter
v) Refractive Index of Fat from Butter

The texts of these methods were edited by the three Organizations to conform to the layout recommended by ISO for the presentation of standards of analysis. These texts, which were circulated to governments (Document MDS 67/7) can now replace the existing standards B.4 and B.5 respectively in further editions of the Code.

- vi) Determination of Fat Content of Milk (Röse-Gottlieb Method)

The text finally agreed "by the three Organizations was submitted to governments for acceptance (Document MDS 67/7 bis) (Step (g) of the Procedure for Elaborating and Publishing Methods of Sampling and Analysis).

Date and Place of the Next Meeting

53. It was agreed that the next meeting of IDF, ISO and AOAC should be held in Rome immediately prior to the Eleventh Session of the Committee.

SECTION III

REPORT OF THE DRAFTING GROUP ON PROCESS (ED) CHEESE PRODUCTS

54. The Drafting Group, which met on 26 and 27 August 1967, was composed as follows :

Dr. J.B. Stine	U.S.A. (Chairman)
Dipl. Ing. E. Adamik	Poland
Dr. P. Ballester Crespo	Spain
Dr. H. Kay	Federal Republic of Germany
Mr. C.A. Landolt	Switzerland
Mr. C.L. Lemaire	France
Mr. H. Metz	Denmark
Mr. Olle Riese	Sweden
Dr. C. Schiere	Netherlands
Mr. F.C. White	United Kingdom
Prof. Dr. M.E. Schulz	International Dairy Federation

55. The Chairman made a brief review of the up-to-date situation of the draft standards for process (ed) cheese products. In this connection he brought out the fact that in the United Kingdom, the Commonwealth countries, the United States and possibly other countries one idea of process (ed) cheese exists, whereas in many of the Continental European countries quite a different concept of process (ed) cheese exists, the difference being primarily that in the first group process (ed) cheese is a firm low moisture product which as a rule is of the same or similar texture as the raw material from which it is manufactured, whereas the Continental European concept envisages a process (ed) cheese product which is soft, high in moisture and readily spreadable.

56. The terms of reference established by the Committee for the Drafting Group were to establish draft standards for cheese products falling in the following four main categories :

- 1) process (ed) cheese made wholly from cheese with emulsifiers;
- 2) process (ed) cheese with other ingredients in addition to emulsifiers;
- 3) non-emulsified pasteurized blended cheese;
- 4) non-emulsified pasteurized blended cheese containing other foods.

57. The working papers used by the Committee consisted of :

- a) a draft standard prepared by IDF for process (ed) cheese and spreadable process (ed) cheese (Document MDS 67/14)
- b) a draft standard prepared by the United States delegation, for process (ed) cheese, process (ed) cheese foods and spreads and pasteurized blended cheese.

Both of these papers were of great assistance to members of the Group in discussions leading to the draft standards mentioned below.

58. As a working basis the Committee decided to establish only one standard for both process (ed) cheese and spreadable process (ed) cheese. The product Process (ed) Cheese would include the firm low moisture product normally associated with the description "process (ed) cheese" in the English-speaking countries, whereas the phrase "Spreadable Processed Cheese" would apply to the soft high moisture spreadable

product often referred to as "process (ed) cheese" by the Continental European countries. (see Appendix VIII-A for the text of the draft).

The second category of process (ed) cheese products was the one now referred to as Process(ed) Cheese Food. This includes process(ed) cheese to which other milk products such as whey powder, non-fat dry milk, casein or lactose have been added (see Appendix VIII-B for the text of the draft).

The third draft standard concerns Pasteurized Blended Cheese. This product consists entirely of cheese which is blended and pasteurized without emulsifiers. Even though only one or two countries are currently manufacturing the product, and it is not at the present time of interest in international trade, the draft has been included as Appendix VIII-C.

59. The terms of reference required a standard for pasteurized blended cheese with other foods added. No one in the Group was aware of any such product having been produced or presently being produced. It was therefore decided that there was no justification for drafting a standard at the present time.

60. It should be understood that the draft standards attached do not represent the unanimous opinion of the members, but are the best compromise which could be obtained. Each member participated as an individual expert on process(ed) cheese manufacture, but is by no means committed to recommend governments acceptance of these draft standards. It is hoped that the drafts will provide a basis for comments by governments which will enable the Secretariat to prepare a paper indicating the measure of agreement by governments of the draft standards. The Group believed that no useful purpose would be served by further detailed discussion at this stage, but that when the comments of governments would have been received the matter could be given fuller consideration.

61. Standard A-8 (a) is a standard for Process(ed) Cheese and Spreadable Process(ed) Cheese. Some difficulties were experienced in arriving at the proper names to be applied to these two process(ed) cheeses in the different languages. As regards Spreadable Process(ed) Cheese, the name in German might be "Schmelzkäse", and in French "Fromage fondu". No name was suggested for Process(ed) Cheese in either French or German, and it is hoped that the countries involved would be in a position to suggest a name for this product. The Spanish Member of the Group reserved his position and promised to refer to his Government for suitable names for both Process(ed) Cheese and Spreadable Process(ed) Cheese.

It should be pointed out that Article 6.2.4 is included merely as a suggestion, as one way to protect the consumer, and it is hoped that governments will give consideration as to how this protection can best be provided.

Part of the Drafting Group preferred to use only the designation of fat on the dry basis, as shown in Articles 6.3.1, 6.3.2, 6.4.1 and 6.4.2, and the remainder emphasized that a simple declaration of fat on the dry basis did not give sufficient protection to the consumer, and that fat on the dry basis should be accompanied by a moisture declaration.

62. The name Process(ed) Cheese Food is the accepted name in English for the product under Standard A-8 (b). The corresponding name in German would be "Schmelzkäsezubereitung". A satisfactory name for this product in the French and Spanish languages will be submitted by the countries concerned.

Considerable discussion was held as to whether or not process(ed) cheese food should carry a cheese variety name. Approximately half of the membership of the Drafting Group felt that it should, the other half felt that it should not, and it is hoped that governments will give their comments as to whether or not a variety name should be included in the name. The present text of Article 6.1 of Standard A-8 (b) should be considered in the light of this statement.

The above comments with regard to fat on the dry basis or fat on the dry basis and moisture declaration also apply to process(ed) cheese foods.

Article 6.1.3 requires that 51 % of the dry matter of the finished product be derived from cheese. Some members of the Drafting Group felt that such a small amount of cheese in a high moisture product was insufficient to warrant its being referred to as a process(ed) cheese food. The present text of the paragraph therefore only expresses the views of those members who had minimum requirements in this respect, and was quite unacceptable to a considerable number of members from countries having higher national standards.

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APPENDIX II - A

PROCEDURE FOR THE ELABORATION OF INTERNATIONAL STANDARDS FOR MILK PRODUCTS

Step 1

The Committee of Government Experts concerning Milk and Milk Products decides on the elaboration of an international standard, collects information from the Governments concerned on their national standards and other relative data and forwards copies of this information to the International Dairy Federation for the development of the first draft of an international standard.

Step 2

The IDF prepares a provisional standard taking into account any information supplied by Member Governments or otherwise available. A report, accompanied by the provisional standard, is sent to the Committee's Secretariat by IDF for distribution to Member States of FAO and WHO as a working paper for the next session of the Committee.

Step 3

The Committee's conclusions on the provisional standard together with the provisional standard as may be amended by the Committee are published in the report of the session and are sent by the Secretariat to Member States of FAO and WHO for comment.

Step 4

The Committee considers the provisional standard in the light of Government comments and amends or revises the provisional standard, if appropriate.

Step 5 *)

The provisional standard as amended is sent out to Governments for further comments.

Step 6 *)

The Committee further considers the provisional standard in the light of Government comments and adopts the final text of the provisional standard.

*) It shall be open to the Committee to authorize the omission of Steps 5 and 6 of the Procedure if it considers, without dissent, that the completion of the standard is a matter of exceptional urgency or if it notes that the standard is entirely uncontroversial and that the standard has already proved to be generally agreeable to the Committee.

Step 7

The final text of the provisional standard is submitted by the Secretariat to Governments for acceptance.

Step 8

The standard is printed in the Code of Principles or the Codex Alimentarius as appropriate when the Committee determines that a sufficient number of Members have formally accepted it.

APPENDIX II – B

PROCEDURE FOR THE ELABORATION OF INTERNATIONAL INDIVIDUAL CHEESE STANDARDS *)

(Revision of text as contained in Appendix III(a) to the Report of the Ninth Session)

- *) Governments which have not yet advised the Secretariat of their acceptance of the General Standard for Cheese (Standard No. A.6) should do so before submitting an application for an international individual cheese standard.

Step 1

Governments submit to the Secretariat their applications with complete supporting documentation. **)

- **) The method of manufacture shall be as outlined in the standard or such other method, if any, which produces a cheese having the same physical, chemical and organoleptic properties as the cheese produced when the procedure outlined in the standard is used.

Step 2

Upon receipt of an application, the Secretariat informs all Governments and sends to the International Dairy Federation full documentation about the variety with an indication of priority to be assigned to the application "by IDF.

Step 3

The Secretariat places before the Committee those applications upon which IDF has reported, together with the draft standards and the IDF report.

Step 4

The Committee's conclusions on these draft standards together with the draft standards are published in the report of the session for comments by Governments.

Step 5

The Secretariat compiles and analyzes Government comments on the draft standards and places this information before the Committee at its next session.

Step 6

The Committee at that session further considers these draft standards in the light of Government comments and decides whether the draft standards should be published either in the Report or when possible in the Code of Principles or the Codex Alimentarius, as appropriate

6.1 for further comments by Governments

or

6.2 for acceptance by Governments as "Codex Standards".

PROCEDURE FOR ELABORATING AND PUBLISHING
METHODS OF SAMPLING AND ANALYSIS

(Revision of text as contained in Appendix B to Section III of the Report of the Ninth Session)

Step (a)

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

Step (b)

The Committee invites the International Dairy Federation to agree a method in principle with the International Organization for Standardization and the Association of Official Agricultural Chemists, and to prepare a preliminary standard.

Step (c)

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

Step (d)

The Secretariat submits the text to all FAO and WHO Member Governments for comments and discussion at the next session of the Committee.

Step (e)

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

Step (f)

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

Step (g)

The Secretariat submits the final version of the method to the Committee for approval.

Step (h)

The Secretariat submits the final version to all FAO and WHO Member Governments for acceptance.

DETERMINATION OF THE FAT CONTENT OF CHEESE AND OF PROCESSED
CHEESE PRODUCTS

REFERENCE METHOD

1. Scope

This reference method specifies the determination of the fat content of cheese and of processed cheese products.

2. Definition

The fat content of cheese and of processed cheese products is defined as the percentage by mass of substances as determined by the procedure described.

3. Principle of method

The fat content is gravimetrically determined by digestion of cheese with hydrochloric acid and subsequent extraction of the fat from an acid-alcoholic solution with diethyl ether and light petroleum, evaporation of the solvents and weighing of the residue, according to the principle of Schmid-Bondzynski-Ratzlaff.

4. Reagents

All reagents should be of analytical reagent quality and leave no residue greater than that permitted for the blank test (7.2). If necessary, reagents may be redistilled in the presence of about 1 g of butterfat for 100 ml of solvent. Water used should be distilled water or water of at least equal purity.

- 4.1 Hydrochloric acid, approx. 25 % (m/m) HCl (0 20°C approx. 1.125 g/ml).
- 4.2 Ethanol, 96 ± 2 % (v/v) or, if not available, ethanol denatured with methanol, ethyl methyl ketone, benzene or light petroleum.
- 4.3 Diethyl ether, peroxide-free.

Note 1

To test for peroxides, add to 10 ml of the ether in small glass stoppered cylinder, previously rinsed with the ether, 1 ml freshly prepared 10 % potassium iodide solution, Shake and let stand for 1 minute. No yellow colour should be observed in either layer.

Note 2

Diethyl ether may be maintained free from peroxides by adding wet zinc foil that has been completely immersed in dilute acidified copper sulphate solution for 1 minute and subsequently washed with water. Use per liter approximately 80 cm² zinc foil; cut in strips long enough to reach at least halfway up the container.

- 4.3 Light petroleum (petroleum ether)-with any boiling range between 30 and 60° C.
- 4.5 Mixed solvent, prepared shortly before use by mixing equal volumes of diethyl ether (4.3) and light petroleum (4.4) (where mixed solvent is specified, the diethyl ether or the light petroleum may be used instead).

5. Apparatus

- 5.1 Analytical balance.
- 5.2 Suitable extraction tubes or flasks, provided with ground glass stoppers, bark corks, or other closures unaffected by solvents used. (Treat good quality bark corks by extracting successively with diethyl ether and light petroleum. Then keep for at least 20 minutes in water at 60 C or above and cool in the water so that they are saturated when used.)
- 5.3 Thin-walled, flat-bottomed flasks of 150-250 ml capacity.
- 5.4 Drying oven, well ventilated and thermostatically controlled (adjusted to operate at $102 \pm 2^{\circ}\text{C}$) or vacuum drying oven (temperature 70-75°C, pressure less than 50 mm Hg).
- 5.5 Material to facilitate boiling, fat-free, non porous, non friable in use, e.g. glass beads or pieces of silicon carbide (the use of this material is optional; see clause 7.3.1).
- 5.6 Water-bath.
- 5.7 Sheets of cellulose film, unlacquered, soluble in hydrochloric acid, 0.03-0.05 mm thick, and of about 5° mm x 75 mm. The cellulose films should not affect the result of the analysis.
- 5.8 Food-chopper or other appropriate device for grinding cheese sample which should be easy to clean.

6. Sampling *)

- *) Any deviating or special prescriptions for the sampling technique or for the preparation of the sample of any type or variety of cheese will be considered in the individual cheese standards being set up under the FAO/WHO Code of Principles concerning Milk and Milk Products.

See Standard on Sampling Methods for Milk and Milk Products in latest edition of FAO/WHO Code of Principles concerning Milk and Milk Products,

7. Procedure

7.1 Preparation of the sample *)

Prior to analysis, remove the rind or smear or mouldy surface layer of the cheese so as to have a sample representative of the cheese such as it is Usually consumed.

Grind the sample by means of an appropriate device (5.8) ; mix the ground mass quickly and grind if possible, a second time and mix again thoroughly. Clean the grinding device after each sample. If the sample does not allow to be ground, mix it thoroughly by intensive kneading.

Transfer the prepared sample to an air-tight container until the analysis, which should be carried out on the same day. If delay is inevitable, take all precautions to ensure proper conservation of the sample and to prevent condensation of moisture on the inside surface of the container.

7.2 Blank test

At the same time as the determination of the fat content of the sample, perform a blank determination on 10 ml of distilled water using the same type of extraction apparatus, the same reagents in the same amounts and

the same procedure as described hereafter, excluding clause 7.3.2. If blank exceeds 0.5 mg, the reagents should be checked and the impure reagent or reagents should be purified or replaced.

7.3 Determination

- 7.3.1 Dry the flask (5.3) (if desired, with some material (5.5) to promote gentle boiling during the subsequent removal of the solvents) in the oven for 0.5 to 1 hour. Allow the flask to cool to the temperature of the balance room and weigh the cooled flask to the nearest 0.1 mg.
- 7.3.2 Weigh to the nearest 1 mg directly in, or by difference into, the extraction apparatus (5.2) or in a 100 ml beaker or flask 1-3 g of the prepared cheese sample. The test sample can also be weighed on a sheet of cellulose film (5.7), which is subsequently folded and introduced in the type of vessel selected.
- 7.3.3 Add 8-10 ml hydrochloric acid (depending on the shape of the extraction apparatus), and gently move the vessel in a boiling water-bath or over a flame, until the cheese is completely dispersed. Let the vessel stand for 20 minutes in the boiling water-bath and then cool, for example, in running water.
- 7.3.4 If the digestion of the cheese has been made in the extraction flask, add 10 ml ethanol and mix the contents gently but thoroughly in the unclosed apparatus.
- If the digestion of the cheese has been made in a vessel other than the extraction flask, pour the contents of the vessel into the extraction flask. Rinse it successively with 10 ml ethanol, 25 ml diethyl ether and 25 ml light petroleum, each time pouring the solvent into the extraction flask. Mix after each addition, and shake the extraction flask as stated under 7.3.5 and 7.3.6.
- 7.3.5 Add 25 ml diethyl ether, close the apparatus and shake vigorously and invert repeatedly for one minute. Cool, if necessary, in running water,
- 7.3.6 Remove the stopper carefully and add 25 ml light petroleum using the first few millilitres to rinse the stopper and inside of the neck of the apparatus, allowing the rinsings to run into the apparatus. Close by replacing the stopper and shake and invert repeatedly for 30 seconds. Do not shake too vigorously if centrifuging is not to be used in 7.3.7.
- 7.3.7 Allow the apparatus to stand until the upper liquid layer has become clear and is distinctly separated from the aqueous layer. Alternatively perform the separation by the use of a suitable centrifuge.

Note

When using a centrifuge not provided with a three-phase motor, sparks may occur and care is therefore necessary to avoid explosion or fire due to the occurrence of ether vapours, e.g. by a broken tube.

- 7.3.8 Remove the stopper, rinsing it and the inside of the neck of the apparatus with a few millilitres mixed solvent and allow the rinsings to run into the apparatus. Carefully transfer as much as possible of the supernatant layer by decantation or by means of a siphon into the flask (7.3.1).

Note

If the transfer is not made by means of a siphon, it may be necessary to add a little water to raise the interface between the two layers in order to facilitate the decantation.

- 7.3.9 Rinse the outside and the inside of the neck of the apparatus or the tip and the lower part of the siphon with a few millilitres mixed solvent. Allow the rinsings from the outside of the apparatus to run into the flask and the rinsings from the inside of the neck and from the siphon to run into the extraction apparatus.
- 7.3.10 Make a second extraction by repeating the procedure of 7.3.5 to 7.3.9 inclusive by using only 15 ml diethyl ether and 15 ml light petroleum.
- 7.3.11 Make a third extraction by repeating the procedure of 7.3.10 but omitting the final rinsing (7.3.9).
- 7.3.12 Carefully evaporate or distil off as much solvent (including the ethanol) as possible. If the flask is of small capacity, some of the solvent will need to be removed in the above manner after each extraction.
- 7.3.13 When there is no longer any solvent odour, heat the flask, placed on its side, for one hour in the oven.
- 7.3.14 Allow the flask to cool to the temperature of the balance room as before (7.3.1), and weigh to the nearest 0.1 mg.
- 7.3.15 Repeat 7.3.13 and 7.3.14 for heating periods of 30-60 minutes until the mass no longer decreases.
- 7.3.16 Add 15-25 ml light petroleum in order to verify that the extracted matter is wholly soluble. Warm gently and swirl the solvent until all the fat is dissolved.
- 7.3.16.1 When the extracted matter is wholly soluble in the light petroleum, the mass of fat is the difference between the weighings under 7.3.1 and 7.3.15.
- 7.3.16.2 If not, completely extract the fat from the flask by repeated washing with warm light petroleum, allowing the undissolved material to settle before each decantation. Rinse the outside of the neck of the flask three times.
- Heat the flask, placed on its side, for one hour in the oven, allow to cool to the temperature of the balance room as before (7.3.1) and weigh to the nearest 0.1 mg. The mass of fat is the difference between the mass under 7.3.15 and this final mass.

8. Expression of results

8.1 Calculation

The mass, in grammes, of fat extracted is :

$$(M_1 - M_2) - (B_1 - B_2)$$

and the fat content of the sample, in percentage by mass, is :

$$\frac{(M_1 - M_2) - (B_1 - B_2)}{S} \times 100$$

where :

M_1 = mass, in grammes, of flask M with fat after stage 7.3.15.

M_2 = mass, in grammes, of flask H after stage 7.3.1 or, in the case of undissolved material, stage 7.3.16.2.

B_1 = mass, in grammes, of flask B of the blank after stage 7.3.15

B_2 = mass, in grammes, of flask B after stage 7.3.1 or,
in the case of undissolved material, stage 7.3.16.2.

S = mass, in grammes, of sample used.

8.2 Repeatability of results

The difference between results of duplicate determinations (results obtained simultaneously or in rapid succession by the same analyst) should not exceed 0.2 g fat for 100 g of the product.

DETERMINATION OF THE FAT CONTENT OF DRIED MILK

REFERENCE METHOD

1. Scope

This reference method specifies the determination of the fat content of whole milk powder, partly skimmed milk powder and skimmed milk powder.

2. Definition

The fat content of milk powder is defined as the percentage by-mass of substances as determined by the procedure described,

3. Principle of method

The fat content is gravimetrically determined by extraction of the fat from an ammoniacal alcoholic solution of milk powder with diethyl ether and light petroleum, evaporation of the solvents and weighing of the residues, according to the principle of Röse-Gottlieb.

4. Reagents

All reagents should be of analytical reagent quality and leave no residue greater than that permitted for the blank test (7.2). If necessary, reagents may be redistilled in the presence of about 1 g of butterfat for 100 ml of solvent. Water used should be distilled water or water of at least equal purity.

4.1 Ammonia solution, approx. 25 % (m/v) NH_3 (P 20° C approx. 0.91 g/ml), or a stronger solution of known concentration.

4.2 Ethanol, 96 ± 2 % (v/v) or, if not available, ethanol denatured with methanol, ethyl methyl ketone, benzene or light petroleum.

4.3 Diethyl ether, peroxide-free.

Note 1

To test for peroxides, add to 10 ml of the ether in small glass stoppered cylinder, previously rinsed with the ether, 1 ml freshly prepared 10 % potassium iodide solution. Shake and let stand for 1 minute. No yellow colour should be observed in either layer.

Note 2

Diethyl ether may be maintained free from peroxides by adding wet zinc foil that has been completely immersed in dilute acidified copper sulphate solution for 1 minute and subsequently washed with water. Use per liter approximately 80 cm² zinc foil; cut in strips long enough to reach at least halfway up the container.

4.4 Light petroleum (petroleum ether) with any boiling range between 30° and 60°C.

4.5 Mixed solvent, prepared shortly before use by mixing equal volumes of diethyl ether (4.3) and light petroleum (4.4) (where mixed solvent is specified, the diethyl ether or the light petroleum may be used instead).

5. Apparatus

- 5.1 Analytical balance.
- 5.2 Suitable extraction tubes or flasks, provided with ground glass stoppers, bark corks, or other closures unaffected by solvents used. Treat good quality bark corks by extracting successively with diethyl ether and light petroleum. Then keep for at least 20 minutes in water at 60°C or above and cool in the water so that they are saturated when used.
- 5.3 Thin-walled, flat-bottomed flasks of 150-250 ml capacity.
- 5.4 Drying oven, well ventilated and thermostatically controlled (adjusted to operate at $102 \pm 2^\circ\text{C}$) or vacuum drying oven (temperature 70-75°C, pressure less than 50 mm Hg),
- 5.5 Material to facilitate boiling, fat-free, non porous, non friable in use, e.g. glass beads or pieces of silicon carbide (the use of this material is optional : see clause 7.3.1).
- 5.6 Water bath at 60-70°C.

6. Sampling

See Standard on Sampling Methods for Milk and Milk Products in latest edition of FAO/WHO Code of Principles concerning Milk and Milk Products.

7. Procedure

7.1 Preparation of the sample

Transfer the milk powder to a clean, dry container (provided with an air-tight lid) of a capacity about twice the volume of the powder. Close the container immediately and thoroughly mix the milk powder by repeatedly shaking and inverting the container. During the preparation of the sample, exposure of the milk powder to the atmosphere should be avoided as far as possible to minimize absorption of moisture.

7.2 Blank test

At the same time as the determination of the fat content of the sample, perform a blank determination on 10 ml of distilled water using the same type of extraction apparatus, the same reagents in the same amounts and the same procedure as described hereafter, excluding clause 7.3.2. If blank exceeds 0.5 mg, the reagents should be checked and the impure reagent or reagents should be purified or replaced.

7.3 Determination

7.3.1 Dry the flask (5.3) (if desired, with some material (5.5) to promote gentle boiling during the subsequent removal of the solvents) in the oven for 0.5 to 1 hour. Allow the flask to cool to the temperature of the balance room and weigh the cooled flask to the nearest 0.1 mg.

7.3.2 Weigh to the nearest 1 mg directly in, or by difference into, the extraction apparatus (5.2) about 1 g of whole milk powder or about 1.5 g of partly skimmed or skimmed milk powder. Add 10 ml water and shake until the milk powder is completely dispersed.

- 7.3.3 Add 1.5 ml ammonia (25 %) or an equivalent volume of a stronger solution and heat in a water-bath for 15 minutes at 60-70°C, shaking occasionally. Cool, for example, in running water.
- 7.3.4 Add 10 ml ethanol and mix the liquids gently but thoroughly in the unclosed apparatus.
- 7.3.5 Add 25 ml diethyl ether, close the apparatus and shake vigorously and invert repeatedly for 1 minute. Cool, if necessary, in running water.
- 7.3.6 Remove the stopper carefully and add 25 ml light petroleum using the first few millilitres to rinse the stopper and inside of the neck of the apparatus, allowing the rinsings to run into the apparatus. Close by replacing the stopper and shake and invert repeatedly for 30 seconds. Do not shake too vigorously if centrifuging is not to be used in 7.3.7.
- 7.3.7 Allow the apparatus to stand until the upper liquid layer has become clear and is distinctly separated from the aqueous layer. Alternatively perform the separation by the use of a suitable centrifuge.

Note

When using a centrifuge not provided with a three-phase motor, sparks may occur and care is therefore necessary to avoid explosion or fire due to the occurrence of ether vapours, e.g. by a broken tube.

- 7.3.8 Remove the stopper, rinsing it and the inside of the neck of the apparatus with a few millilitres mixed solvent and allow the rinsings to run into the apparatus. Carefully transfer as much as possible of the supernatant layer by decantation or by means of a siphon into the flask (7.3.1).

Note

If the transfer is not made by means of a siphon, it may be necessary to add a little water to raise the interface between the two layers in order to facilitate the decantation.

- 7.3.9 Rinse the outside and the inside of the neck of the apparatus or the tip and the lower part of the siphon with a few millilitres mixed solvent. Allow the rinsings from the outside of the apparatus to run into the flask and the rinsings from the inside of the neck and from the siphon to run into the extraction apparatus.
- 7.3.10 Make a second extraction by repeating the procedure of 7.3.5 to 7.3.9 inclusive but using only 15 ml diethyl ether and 15 ml light petroleum.
- 7.3.11 Make a third extraction by repeating the procedure of 7.3.10 but omitting the final rinsing (7.3.9).

Note

It is not mandatory to carry out this third extraction in the case of skimmed milk powder.

- 7.3.12 Carefully evaporate or distil off as much solvent (including the ethanol) as possible. If the flask is of snail capacity, some of the solvent will need to be removed in the above manner after each extraction.
- 7.3.13 When there is no longer any solvent odour, heat the flask, placed on its side, for one hour in the oven.
- 7.3.14 Allow the flask to cool to the temperature of the balance room as before (7.3.1), and weigh to the nearest 0.1 mg.
- 7.3.15 Repeat 7.3.13 and 7.3.1.4 for heating periods of 30-60 minutes until the mass no longer decreases.
- 7.3.16 Add 15-25 ml light petroleum in order to verify that the extracted matter is wholly soluble. Warm gently and swirl the solvent until all the fat is dissolved.
- 7.3.16.1 When the extracted matter is wholly soluble in the light petroleum, the mass of fat is the difference between the weighings under 7.3.1 and 7.3.15.
- 7.3.16.2 If not, completely extract the fat from the flask by repeated washing with warm light petroleum, allowing the undissolved material to settle before each decantation. Rinse the outside of the neck of the flask three times.

Heat the flask, placed on its side, for one hour in the oven, allow to cool to the temperature of the balance room as before (7.3.1) and weigh to the nearest 0.1 mg. The mass of fat is the difference between the mass under 7.3.15 and this final mass.

8. Expression of results

8.1 Calculation

The mass, in grammes, of fat extracted is :

$$(m_1 - m_2) - (B_1 - B_2)$$

and the fat content of the sample, in percentage by mass, is :

$$\frac{(M_1 - M_2) - (B_1 - B_2)}{S} \times 100$$

where :

M_1 = mass, in grammes, of flask M with fat after stage 7.3.15.

M_2 = mass, in grammes, of flask M after stage 7.3.1 or, in the case of undissolved material, stage 7.3.16.2.

B_1 = mass, in grammes, of flask B of the blank after stage 7.3.15.

B_2 = mass, in grammes, of flask B after stage 7.3.1 or, in the case of undissolved material, stage 7.3.16.2.

S = mass, in grammes, of sample used.

8.2 Repeatability of results

The difference between results of duplicate determinations (results obtained simultaneously or in rapid succession by the same analyst) should not exceed 0.2 g fat for 100 g of the product.

DETERMINATION OF THE FAT CONTENT
OF EVAPORATED MILKS AND OF SWEETENED CONDENSED MILKS

REFERENCE METHOD

1. Scope

This reference method specifies the determination of the fat content of evaporated milk, evaporated skimmed milk, sweetened condensed milk and skimmed sweetened condensed milk.

2. Definition

The fat content of evaporated milk and of sweetened condensed milk is defined as the percentage by mass of substances as determined by the procedure described.

3. Principle of method

The fat content is gravimetrically determined by extraction of the fat from an ammoniacal alcoholic solution of evaporated milk or sweetened condensed milk with diethyl ether and light petroleum, evaporation of the solvents and weighing of the residue, according to the principle of Röse-Gottlieb.

4. Reagents

All reagents should be of analytical reagent quality and leave no residue greater than that permitted for the blank test (7.2). If necessary, reagents may be redistilled in the presence of about 1 g of butter fat for 100 ml of solvent. Water used should be distilled water or water of at least equal purity.

- 4.1 Ammonia solution, approx. 25 % (m/v) NH_3 (P 20°C approx. 0.91 g/ml), or a stronger solution of known concentration.
- 4.2 Ethanol, 96 ± 2 % (v/v) or, if not available, ethanol denatured with methanol, ethyl methyl ketone, benzene or light petroleum.
- 4.3 Diethyl ether, peroxide-free.

Note 1

To test for peroxides, add to 10 ml of the ether in small glass stoppered cylinder, previously rinsed with the ether, 1 ml freshly prepared 10 % potassium iodide solution. Shake and let stand for 1 minute. No yellow colour should be observed in either layer.

Note 2

Diethyl ether may be maintained free from peroxides by adding wet zinc foil that has been completely immersed in dilute acidified copper sulphate solution for 1 minute and subsequently washed with water. Use per liter approximately 80 cm^2 zinc foil; cut in strips long enough to reach at least halfway up the container.

- 4.4 Light petroleum (petroleum ether) with any boiling range between 30°C and 60°C.

- 4.5 Mixed solvent, prepared shortly before use by mixing equal volumes of diethyl ether (4.3) and light petroleum (4.4) (where mixed solvent is specified, the diethyl ether or the light petroleum may be used instead).

5. Apparatus

- 5.1 Analytical balance.
- 5.2 Suitable extraction tubes or flasks, provided with ground glass stoppers, bark corks, or other closures unaffected by solvents used. Treat good quality bark corks by extracting successively with diethyl ether and light petroleum. Then keep for at least 20 minutes in water at 60°C or above and cool in the water so that they are saturated when used.
- 5.3 Thin-walled, flat-bottomed flasks of 150-250 ml capacity.
- 5.4 Drying oven, well ventilated and thermostatically controlled (adjusted to operate at $102 \pm 2^\circ\text{C}$, or vacuum drying oven (temperature 70-75°C, pressure less than 50 mm 50 mm Hg).
- 5.5 Material to facilitate boiling, fat-free, non porous, non friable in use, e.g. glass beads or pieces of silicon carbide (the use of this material is optional; see clause 7.3.1).

6. Sampling

See Standard on Sampling Methods for Milk and Milk Products in latest edition of FAO/WHO Code of Principles concerning Milk and Milk Products.

7. Procedure

7.1 Preparation of sample

7.1.1 Evaporated milk

Shake and invert the container. Open the container, pour the milk slowly into a second container (provided with an air-tight lid) and mix by repeated transfer taking care to incorporate in the sample any fat or other constituent adhering to the wall and ends of the first container. Finally transfer the milk as completely as possible to the second container. Close the container. If necessary, temper unopened can in water bath at 40-60°C. Remove and shake can vigorously every 15 minutes. After 2 hours, remove can and let cool to room temperature. Remove entire lid and thoroughly mix by stirring contents in can with spoon or spatula (if fat separates, do not test sample).

7.1.2 Sweetened condensed milk

Open the container and thoroughly mix the milk with a spoon or spatula. Use an up and down rotary movement in such a way that the top layers and the contents of the lower corners of the container are moved and mixed. Take care to incorporate in the sample any milk adhering to the wall and ends of the container. Transfer the milk as completely as possible to a second container (provided with an air-tight lid). Close the container.

If necessary, temper unopened can in water bath at 30-40°C. Open, scrape out all milk adhering to interior of can, transfer to

dish large enough to permit stirring thoroughly, and mix until whole mass is homogeneous.

In case of a collapsible tube, open and transfer the contents to a jar. Cut open the tube and scrape out all material adhering to the interior and transfer to the jar.

7.2 Blank test

At the same time as the determination of the fat content of the sample, perform a blank determination on 10 ml of distilled water using the same type of extraction apparatus, the same reagents in the same amounts and the same procedure as described hereafter, excluding clause 7.3.2. If blank exceeds 0.5 mg, the reagents should be checked and the impure reagent or reagents should be purified or replaced.

7.3 Determination

- 7.3.1 Dry the flask (5.3) (if desired, with some material (5.5) to promote gentle boiling during the subsequent removal of the solvents) in the oven for 0.5 to 1 hour. Allow the flask to cool to the temperature of the balance room and weigh the cooled flask to the nearest 0.1 mg.
- 7.3.2 Stir the prepared sample and immediately weigh to the nearest 1 mg directly in, or by difference into, the extraction apparatus (5.2) 4-5 8 % the well mixed sample. Add 7.0 ml water and shake gently with slight warming (40-50°C) until the product is completely dispersed.
- 7.3.3 Add 1.5 ml ammonia (25 %) or an equivalent volume of a stronger solution, and mix well.
- 7.3.4 Add 10 ml ethanol and mix the liquids gently but thoroughly in the unclosed apparatus.
- 7.3.5 Add 25 ml diethyl ether, close the apparatus and shake vigorously and invert repeatedly for 1 minute. Cool, if necessary, in running water.
- 7.3.6 Remove the stopper carefully and add 25 ml light petroleum using the first few millilitres to rinse the stopper and inside of the neck of the apparatus, allowing the rinsings to run into the apparatus. Close by replacing the stopper and shake and invert repeatedly for 30 seconds. Do not shake too vigorously if centrifuging is not to be used in 7.3.7.
- 7.3.7 Allow the apparatus to stand until the upper liquid layer has become clear and is distinctly separated from the aqueous layer. Alternatively perform the separation by the use of a suitable centrifuge.

Note

When using a centrifuge not provided with a three-phase motor, sparks may occur and care is therefore necessary to avoid explosion or fire due to the occurrence of ether vapours, e.g. by a broken tube.

- 7.3.8 Remove the stopper, rinsing it and the inside of the neck of the apparatus with a few millilitres mixed solvent and allow the rinsings to run into the apparatus. Carefully transfer as much as possible of the supernatant layer by decantation or by means of a siphon into the flask (7.3.1).

Note

If the transfer is not made by means of a siphon, it may be necessary to add a little water to raise the interface between the two layers in order to facilitate the decantation.

- 7.3.9 Rinse the outside and the inside of the neck of the apparatus or the tip and the lower part of the siphon with a few millilitres mixed solvent. Allow the rinsings from the outside of the apparatus to run into the flask and the rinsings from the inside of the neck and from the siphon to run into the extraction apparatus.
- 7.3.10 Make a second extraction by repeating the procedure of 7.3.5 to 7.3.9 inclusive but using only 15 ml diethyl ether and 15 ml light petroleum.
- 7.3.11 Make a third extraction by repeating the procedure of 7.3.10 but omitting the final rinsing (7.3.9).

Note

It is not mandatory to carry out this third extraction in the case of evaporated skimmed milk and skimmed sweetened condensed milk.

- 7.3.12 Carefully evaporate or distil off as much solvent (including the ethanol) as possible. If the flask is of small capacity, some of the solvent will need to be removed in the above manner after each extraction.
- 7.3.13 When there is no longer any solvent odour, heat the flask, placed on its side, for one hour in the oven.
- 7.3.14 Allow the flask to cool to the temperature of the balance room as before (7.3.1), and weigh to the nearest 0.1 mg.
- 7.3.15 Repeat 7.3.13 and 7.3.14 for heating periods of 30-60 minutes until the mass no longer decreases.
- 7.3.16 Add 15-25 ml light petroleum in order to verify that the extracted matter is wholly soluble. Warm gently and swirl the solvent until all the fat is dissolved.
- 7.3.16.1 When the extracted matter is wholly soluble in the light petroleum, the mass of fat is the difference between the weightings under 7.3.1 and 7.3.15.
- 7.3.16.2 If not, completely extract the fat from the flask by repeated washing with warm light petroleum, allowing the undissolved material to settle before each decantation. Rinse the outside of the neck of the flask three times.

Heat the flask, placed on in its side, for one hour in the oven, allow to cool to the temperature of the balance room as before (7.3.1) and weigh to the nearest 0.1 mg. The mass of fat is the difference between the mass under 7.3.15 and this final mass.

8. Expression of results

8.1 Calculation

The mass, in grammes, of fat extracted is :

$$(M_1 - M_2) - (B_1 - B_2)$$

and the fat content of the sample, in percentage by mass, is :

$$\frac{(M_1 - M_2) - (B_1 - B_2)}{S} \times 100$$

where :

M_1 = mass, in grammes, of flask M with fat after stage 7.3.15

M_2 = mass, in grammes, of flask M after stage 7.3.1 or,
in the case of undissolved material, stage 7.3.16.2.

B_1 = mass, in grammes, of flask B of the blank after stage 7.3.15.

B_2 = mass, in grammes, of flask B after stage 7.3.1 or,
in the case of undissolved material, stage 7.3.16.2.

S = mass, in grammes, of sample used.

8.2 Repeatability of result

The difference between results of duplicate determinations (results obtained simultaneously or in rapid succession by the same analyst) should not exceed 0.5 g fat for 100 g of the product.

DETERMINATION OF THE SALT (SODIUM CHLORIDE) CONTENT OF BUTTER

REFERENCE METHOD

1. Scope

This reference method specifies the determination of the salt content of all kinds of butter.

2. Definition

The salt (sodium chloride) content of butter is defined as the percentage by mass of salt (sodium chloride) as determined by the procedure de scribe do

3. Principle of method

After melting the butter by adding boiling water, the chlorides in the mixture are titrated with a solution of silver nitrate, using potassium chromate as indicator, according to the Mohr procedure, and the salt content is calculated.

4. Reagents

4.1 Silver nitrate solution, 0.1 N, standardized.

4.2 Potassium chromate solution 5 % (m/v) in distilled water.

5. Apparatus

5.1 Analytical balance.

5.2 Conical flasks, capacity 250 ml.

5.3 Burette, graduated to 0.1 ml.

6. Sampling

See Standard on Sampling Methods for Milk and Milk Products in latest edition of FAO/WHO Code of Principles concerning Milk and Milk Products

7. Procedure

7.1 Preparation of the sample

Soften sample in closed sample container by warming in water bath kept at as low a temperature as practicable in order not to break the emulsion. Temperatures of 23 to 28 C are often suitable for this purpose, but in no case should the temperature exceed 39 C. Shake sample container at frequent intervals during the softening process to thoroughly mix sample. Remove sample container from water bath and shake vigorously at frequent intervals until sample has cooled to a thick, creamy consistency. A mechanical shaker may be used.

7.2 Blank test

Make a blank determination using the same reagents in the same amounts and the same procedure as described hereafter, excluding clause 7.3.1.

7.3 Determination

- 7.3.1 Weigh, to the nearest 10 mg, about 5 g of the sample into the conical flask.
- 7.3.2 Carefully add 100 ml of boiling distilled water. Allow to stand for 5-10 min., swirling occasionally, while cooling to 50-55 C-(titration temperature).
- 7.3.3 Add 2 ml of the potassium chromate solution (4.2). Mix by swirling.
- 7.3.4 While swirling continuously, titrate with the silver nitrate solution (4.1) until the colour change to orange-brown persists for 30 sec.

8. Expression of results

8.1 Calculation

The salt content (expressed as percentage by mass of NaCl) is :

$$\frac{5.85 t (v_1 - v_0)}{a}$$

where :

t = normality of the silver nitrate solution

v₁ = number of ml of silver nitrate solution used in 7.3.4

v₀ = number of ml of silver nitrate solution used in 7.2

a = mass, in grammes, of sample used.

Round the result off to 0.01 %.

8.2 Repeatability of results

The difference between results of duplicate determinations (results obtained simultaneously or in rapid succession by the same analyst) should not exceed 0.02 g sodium chloride for 100 g of the product.

INTERNATIONAL INDIVIDUAL
CHEESE STANDARDS
SUBMITTED
TO
GOVERNMENTS
FOR
ACCEPTANCE

- A. CHESHIRE
- B. EMMENTALER

- C. GRUYERE

International Individual Standard for
CHESHIRE

1. Designation of cheese

Cheshire

2. Depositing country

United Kingdom (country of origin)

3. Haw materials

3.1 Kind of milk : cow's milk 3.2 Authorized additions

3.2.1 Necessary additions

- harmless bacterial cultures (lactic acid producing bacteria)
- rennet or other suitable coagulating enzymes
- sodium chloride

3.2.2 Optional additions

- annatto and carotene, max. 0.06 % by weight of the cheese
- calcium chloride, max. 0.02 % by weight of the milk used
- sorbic acid or its sodium or potassium salts, max. 1000 parts per million calculated as sorbic acid

4. Essential characteristics of the cheese ready for consumption

4.1 Type (consistency) : hard

4.2 Shape : cylindrical or block (cuboid)

4.3 Dimensions and weights

4.3.1 Dimensions : a) cylindrical

diameter : 5-12 inches (13-31 cm.)

height : 4½-12 inches (12-31 cm.)

b) block : 14x11x6½ inches (36x28x17 cm.)

c) other : 14x5½x4½ - inches (36x14x12 cm.)

4.3.2 Weights : a) cylindrical : 7-50 pounds (3.2-22.7 kg.)

b) block : 40 pounds (18.2 kg.)

c) other : 10 pounds (4.6 kg.) and

less than 7 pounds (3.2 kg.)

(miniature cheese)

4.4 Rind

4.4.1 Consistency : hard

4.4.2 Appearance : smooth, sometimes cloth wrapped, and may be wax coated

- 4.4.3 Colour : uncoloured or pale straw through dark straw to orange; rind less cheese may be in airtight flexible film
- 4.5 Body
 - 4.5.1 Texture : firm, free, granular and silky
 - 4.5.2 Colour : uncoloured or uniformly pale straw through dark straw to orange
- 4.6 Holes : gas holes should be absent
- 4.7 Minimum fat content in dry matter : 48 %
- 4.8 Maximum moisture content : 44 %
- 4.9 Other essential characteristics : a clean, mild, slightly acid flavour; normally consumed at 3-6 weeks, but may be matured. Miniature cheese may be sold at 2-4 weeks
- 5. Method of manufacture
 - 5.1 Method of coagulation : rennet or other suitable coagulating enzymes
 - 5.2 Heat treatment
 - 5.2.1 Heat treatment of the milk : milk for cheesemaking is customarily heat treated to 1540 F (67.8 C) for 15 seconds, but sometimes full pasteurization to 161 F (71-70 C) for 15 seconds is practised.
 - 5.2.2 Heat treatment of the coagulum : the curd is subsequently cut and scalded to 88°-94 F (31.1-34.4°C)
 - 5.3 Fermentation procedure : 1.0 % - 2.5 % lactic acid starter is added to the milk, to give a ripening period of up to 2 hours before renneting.
 - 5.4 Maturation procedure : after scalding the curd, it is stirred until an acidity of 0.16 % - 0.17 % expressed as lactic acid is reached. The whey is run off and the curd is cut into small cubes, which are broken at intervals to release the whey until the acidity of the whey reaches 0.60 % - 0.65 % expressed as lactic acid. The curd is then milled, about 2.0 % - 2.5 % salt added, when it is mixed and moulded. Removal of the curd from the vat to a drainer enables the curd to continue to drain and develop acidity. The cheese are turned in store, and are ready for grading and marketing from 2-3 weeks, unless they are kept for maturing.
- 6. Sampling and analysis
 - 6.1 Sampling : according to FAO/WHO Standard B.1, "Sampling Methods for Milk and Milk Products", clause 7.2(b) "Sampling by means of a trier", or, in case of small cheeses, according to clauses 7.2 (a), "Sampling by outting" or 7.2(c), "Taking a complete cheese as a sample".
 - 6.2 Determination of fat content : according to FAO/WHO Standard B.3, "Determination of the Fat Content of Cheese and Processed Cheese Products".
- 7. Marking and labelling

Cheese conforming with this standard shall be designated "Cheshire" and shall be labelled in conformity with the appropriate sections of Article 4 of FAO/WHO Standard A.6, "General Standard for Cheese".

International Individual Standard for
EMMENTALER

1. Designation of cheese
Emmentaler, Emmental
2. Depositing countries
Switzerland (country of origin), Finland, France, United States of America
3. Raw materials
 - 3.1 Kind of milk : cow's milk 3.2 Authorized additions
 - 3.2.1 Necessary additions
 - harmless "bacterial cultures (lactic and propionic acid producing bacteria
 - rennet or other suitable coagulating enzymes
 - sodium chloride
 - water
 - 3.2.2 Optional additions
 - calcium chloride, max. 0.02 % "by weight of the milk used
 - cupric sulfate, max. 15 parts per million expressed as copper in the cheese
 - sodium and potassium chlorate, max. 100 parts per million in the cheese
4. Essential characteristics of the cheese ready for consumption
 - 4.1 Type (consistency) : hard
 - 4.2 Shape :
 - a) round loaf
 - b) rectangular block
 - c) rectangular rindless block
 - 4.3 Dimensions and weights
 - 4.3.1 Dimensions :

a) round loaf			
diameter :	70-100	cm.	
height :	12-30	cm.	
b) rectangular block			
height :	12-30	cm.	
c) rectangular rindless block			
height :	12-30	cm.	
 - 4.3.2 Weights :

a) round loaf :	min. 50 kg.
b) rectangular block	min. 30 kg.
c) rectangular rindless block :	min. 30 kg.

- 4.4 Rind
 - 4.4.1 Consistency:
 - a) round loaf : hard
 - b) rectangular block : hard
 - c) rectangular rindless block : soft
 - 4.4.2 Appearance:
 - a) round loaf : dry
 - b) rectangular block : dry
 - c) rectangular rindless block : like inside
 - 4.4.3 Colour :
 - a) round loaf : golden yellow to brown
 - b) rectangular block : golden yellow to brown
 - c) rectangular rindless block: ivory to light yellow
- 4.5 Body
 - 4.5.1 Texture : sliceable
 - 4.5.2 Colour : ivory to light yellow
- 4.6 Holes
 - 4.6.1 Distribution : regular, scarce to plentiful
 - 4.6.2 Shape : round
 - 4.6.3 Diameter : mainly 1-3 cm.
 - 4.6.4 Appearance : mat to brilliant
- 4.7 Minimum fat content in dry matter :45 %
- 4.8 Minimum dry matter content : 60 %
- 4.9 Other essential characteristics
 - 4.9.1 Taste and flavour : mild, nutlike, more or less pronounced
 - 4.9.2 Ready for consumption : minimum of 60 days from day of manufacture
 - 4.9.3 Storing ability : the cheese should normally maintain its characteristics for a minimum of 1 months at a temperature of 150 C from the time it is ready for consumption

5. Method of manufacture

- 5.1 Method of coagulation : rennet or other suitable coagulating enzymes
- 5.2 Heat treatment : after cutting the curd to particles about the size of wheat grains, heating to 50° C as a minimum
- 5.3 Fermentation procedure : lactic acid fermentation and propionic acid fermentation taking place throughout the cheese at 20 C minimum, for a minimum of 3 weeks
- 5.4 Maturation procedure : proteolysis due to action of microbial enzymes at succeeding temperatures between 10 and 25°C

5.5 Other essential characteristics : treatment with cooking salt; the cheeses are salted by immersion in salt solution and/or dry-salted on the surface; during maturation, except in the case of rindless block, the surface of the cheeses is washed, cleaned and salted at intervals

6. Sampling and analysis

6.1 Sampling : according to FAO/WHO Standard B.1, "Sampling Methods for Milk and Milk Products", clause 7.2 (b) "Sampling by means of a trier". Reference is made to clauses 7.2.2.1 and 7.2.2.5

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

7. Marking and labelling

Cheese conforming with this standard shall be designated "Emmentaler" or "Emmental" and shall be labelled in conformity with the appropriate sections of Article 4 of FAO/WHO Standard A.6, "General Standard for Cheese", except that Emmentaler not produced in the country of origin must be marked with the name of the producing country even when sold on the home market.

International individual Standard for
GRUYERE

1. Designation of cheese
Gruyere, Greyerzer, Gruviera
2. Depositing countries
Switzerland and Prance (countries of origin)
3. Raw materials
 - 3.1 Kind of milk : cow's milk
 - 3.2 Authorized additions
 - 3.2.1 Necessary additions
 - harmless "bacterial cultures (lactic and propionic acid producing "bacteria)
 - rennet or other suitable coagulating enzymes
 - sodium chloride
 - water
 - 3.2.2 Optional additions : none
4. Essential characteristics of the cheese ready for consumption
 - 4.1 Type (consistency) : hard
 - 4.2 Shape : round loaf
 - 4.3 Dimensions and weight
 - 4.3.1 Dimensions

diameter :	40-65 cm.
height :	9-13 cm.
 - 4.3.2 Weight : minimum 20 kg.
 - 4.4 Rind
 - 4.4.1 Consistency : hard
 - 4.4.2 Appearance : covered with smear
 - 4.4.3 Colour : golden yellow to brown
 - 4.5 Body
 - 4.5.1 Texture : sliceable
 - 4.5.2 Colour : ivory to light yellow
 - 4.6 Holes
 - 4.6.1 Distribution : regular, scarce to plentiful
 - 4.6.2 Shape : round
 - 4.6.3 Diameter : mainly from 0.5 to 1.0 cm.
 - 4.6.4 Appearance : mat to brilliant

- 4.7 Minimum fat content in the dry matter :45%
- 4.8 Minimum dry matter content : 62 %
- 4.9 Other essential characteristics
 - 4.9.1 Taste and flavour : more or less tangy
 - 4.9.2 Ready for consumption : the cheese is ready for consumption at a minimum age of 80 days from the day of manufacture
 - 4.9.3 Storing ability : the cheese should normally maintain its characteristics for a minimum of 1 month at a temperature of 15° C from the time it is ready for consumption
- 5. Method of manufacture
 - 5.1 Method of coagulation : rennet or other suitable coagulating enzymes
 - 5.2 Heat treatment : after cutting the curd to particles about the size of wheat grains, heating to 50° C as a minimum
 - 5.3 Fermentation procedure : lactic acid fermentation and propionic acid fermentation taking place throughout the cheese at 14 C minimum for a minimum of 4 weeks
 - 5.4 Maturation procedure : proteolysis due to action of enzymes of lactic acid bacteria and smear organisms at succeeding temperatures between 10 and 20°C
 - 5.5 Other essential characteristics
 - 5.5.1 Treatment of milk x use of raw milk
 - 5.5.2 Treatment with cooking salt : the cheeses are salted by-immersion in salt solution and/or dry-salted on the surface. During maturation, the surface of the cheeses is salted and smeared at intervals.
- 6. Sampling and analysis
 - 6.1 Sampling : according to FAO/WHO Standard B.1, "Sampling Methods for Milk and Milk Products", clause 7.2 (b), "Sampling by means of a trier". Reference is made to clauses 7.2.2.1 and 7.2.2.5.
 - 6.2 Determination of fat content: according to FAO/WHO Standard B.3, "Determination of the Fat Content of Cheese and Processed Cheese Products"
- 7. Marking and labelling

Cheese conforming with the standard shall be designated "Gruyère", "Greyerzer" or "Gruviera" and shall be labelled in conformity with the appropriate sections of Article 4 of FAO/WHO Standard A.6, "General Standard for Cheese", except that Gruyere not produced in the country of origin must be marked, with the name of the producing country even when sold on the home market

International Individual Standard for
BLUE STILTON *)

*) not yet submitted to governments for acceptance for the reasons given in paragraph 29 of this Report

1. Designation of cheese

Blue Stilton

2. Depositing country

United Kingdom (country of origin)

3. Raw materials

3.1 Kind of milk : cow's milk

3.2 Authorized additions

3.2.1 Necessary additions

- harmless bacterial cultures (lactid acid producing bacteria)
- rennet or other suitable coagulating enzymes
- sodium chloride
- moulds characteristic of the variety

3.2.2 Optional additions : none

4. Essential characteristics of the cheese ready for consumption

4.1 Type (consistency) : semi-hard

4.2 Shape : cylindrical

4.3 Dimensions and weight

4.3.1 Dimensions

Diameter : 6-9 inches (15-23 cm.)

Height : 12-15 inches (30-39 cm.)

4.3.2 Weight : 14-18 pounds (6.4-8.2 kg.)

4.4 Rind

4.4.1 Consistency : thin, slightly wrinkled, intact

4.4.2 Appearance : free from mites and obvious mould

4.4.3 Colour : grayish, brown

4.5 Body

4.5.1 Texture : open and flaky, free from chalkiness

4.5.2 Colour : uniformly creamy white with "blue mould, not brown

4.6 Holes : gas holes should he absent

4.7 Minimum fat content in dry matter : 48 %

4.8 Maximum moisture content : 42 %

- 4.9 Other essential characteristics : the cheeses are matured at 3-6 months and are sometimes skewered at 4-8 weeks to promote uniform mould growth, typical of blue veined cheeses.
Flavour : clean and mild.

5 Method of manufacture

- 5.1 Method of coagulation : rennet or other suitable coagulating enzymes
- 5.2 Heat treatment
- 5.2.1 Heat treatment of the milk : milk for cheesemaking is customarily heat treated to 154° F (67.8° C) for 15 seconds, but sometimes full pasteurization to 161 F (71.7° C) for 15 seconds is practised.
- 5.2.2 Heat treatment of the coagulum : the curd is cut and held at 70°F (21.2° C) for acidity to develop.
- 5.3 Fermentation procedure : up to 1.5 % lactic acid starter is usually added before renneting to develop acidity.
- 5.4 Maturation procedure : after cutting, the curd is allowed to settle in the whey, which is drawn off at intervals until it shows an acidity of 0,12 % expressed as lactic acid, when the curd is scooped into Stilton sinks or drainers. The curd is cut into blocks and turned until it has an acidity of 0.95 % -1.20 % expressed as lactic acid, when it is broken up or milled. About 2 % salt is then added and the curd is moulded without pressure. The surface of the cheese is lightly scraped with a knife to fill in crevices, turning daily until the coat has formed. The cheeses are commonly matured at a temperature from 50°-60° F (10.0-15.5°C) for 3-6 months or they may be held at 0°F (-17.8°C) for 6-9 months.

6. Sampling and analysis

- 6.1 Sampling : according to FAO/WHO Standard B.1, "Sampling Methods for Milk and Milk Products", clause 7.2.(b), "Sampling by means of a trier", or, in case of small cheeses, according to clauses 7.2(a), "Sampling "by cutting" or 7.2.(c), "Taking a complete cheese as a sample".
- 6.2 Determination of fat content : according to FAO/WHO Standard B.3, "Determination of the Fat Content of Cheese and Processed Cheese Products".

7. Marking and labelling

Cheese conforming with this standard shall be designated "Blue Stilton" and shall be labelled in conformity with the appropriate sections of Article 4 of FAO/WHO Standard A.6, "General Standard for Cheese".

DRAFT INTERNATIONAL INDIVIDUAL
CHEESE STANDARDS
SUBMITTED
TO
GOVERNMENTS
FOR
COMMENT

- | | | | |
|----|--------------|----|---|
| A. | TILSITER | E. | PROVOLONE |
| B. | LIMBÜRGER | F. | COTTAGE CHEESE
INCLUDING CREAMED
COTTAGE CHEESE |
| C. | SAINT-PAULIN | | |
| D. | SVECIA | | |

Draft International Individual Standard for
TILSITER

1. Designation of cheese

Tilsiter *)

*) or such other synonyms (e.g. Tilsit, Tylzycki) derived from this name as will clearly indicate this variety.

2. Depositing countries

Austria, Federal Republic of Germany, the Netherlands, Norway, Poland
Switzerland.

3. Raw materials

3.1 Kind of milk : cow's milk

3.2 Authorized additions

3.2.1 Necessary additions

- harmless bacterial cultures (lactic acid producing "bacteria and cultures of Bacterium linens)
- rennet or other suitable coagulating enzymes
- sodium chloride

3.2.2 Optional additions

- calcium chloride, max. 0.02 % by weight of the milk used
- sodium and potassium nitrate, max. 0.02 % by weight of the milk used
- annatto, carotene, max. 0.06 % by weight of the cheese
- lactoflavin (riboflavin)
- water

4. Essential characteristics of the cheese ready for consumption

4.1 Type : semi-hard

4.2 Shape (usual) : a) cylindrical
b) block

4.3 Dimensions and weights

4.3.1 Dimensions : a) cylindrical
diameter : approx. 25 cm.
height : approx. 10 cm.

b) Block
length : 25 to 35 cm.
width : approx. 12 cm.
Height : approx. 10 cm.

4.3.2 Weights : a) cylindrical : approx. 4.5 kg.
b) block : 3 to 6 kg.

- 4.4 Rind
 - 4.4.1 Consistency: firm, but not hard
 - 4.4.2 Appearance : well-dried smear developed by red and yellow smear producing bacteria or as a substitute for the smear removed after the ripening process coated with yellowish wax or plastics
 - 4.4.3 Colour : reddish brown to straw-coloured
- 4.5 Body
 - 4.5.1 Texture : semi-hard, suitable for cutting
 - 4.5.2 Colour : ivory-coloured to yellow
- 4.6 Holes
 - 4.6.1 Distribution : preferably regular
 - 4.6.2 Shape : preferably slit-shaped
 - 4.6.3 Size : rice grain
 - 4.6.4 Appearance : shiny
- 4.7/4.8 Minimum fat contents in dry matter and maximum moisture contents

	TILSITER A	30% TILSITER B	40 % TILSITER C	50 % TILSITER D	60 % TILSITER E
Minimum fat in dry matter %	45	30	40	50	60
Maximum moisture %	47	53	49	45	39

- 4.9 Other essential characteristics
 - 4.9.1 Flavour : typical flavour developed by red and yellow smear producing bacteria during ripening for at least four weeks
 - 4.9.2 Ready for consumption : after at least five weeks
- 5. Method of manufacture
 - 5.1 Method of coagulation : with rennet, lactic acid starter or any other suitable coagulating enzymes
 - 5.2 Heat treatment
 - 5.2.1 Heat treatment of the milk :
 - 5.2.2 Heat treatment of the coagulum : scalding after cutting the coagulum
 - 5.3 Fermentation procedure : lactic acid fermentation
 - 5.4 Maturation procedure : ripening at 12° C - 16° C

5.5 Other essential characteristics : salted in brine

6. Sampling and analysis

6.1 Sampling : according to FAO/WHO Standard B.1, "Sampling Methods for Milk and Milk Products", paragraph 7, "Sampling of cheese".

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

7. Marking and Labelling

Cheese conforming with this Standard shall be designated "Tilsiter" and shall be labelled in conformity with the appropriate sections of Article 4 of FAO/WHO Standard A.6, "General Standard for Cheese".

The cheese mentioned under B, C, D and E in, 4.7 and 4.8 shall be declared on the label with a prefix to the designation "Tilsiter" corresponding to the fat percentage, e.g. 30 % Tilsiter.

Draft International Individual Standard for
LIMBURGER

1. Designation of cheese

Limburger *)

*) or such other synonyms derived from this name as will clearly indicate this variety.

2. Depositing countries

Federal Republic of Germany, United States of America (Country of origin : Belgium)

3. Raw materials

3.1 Kind of milk : cow's milk 3.2 Authorized additions

3.2.1 Necessary additions

- harmless bacterial cultures (lactic acid producing bacteria and cultures of Bacterium linens)
- rennet or other suitable coagulating enzymes
- sodium chloride

3.2.2 Optional additions

- calcium chloride , max. 0.02 % by weight of the milk used
- sodium and potassium nitrate, max. 0.02 % by weight of the milk used
- carotene, max. 0.06 %by weight of the cheese
- lactoflavin (riboflavin)
- safe and suitable enzymes to assist in flavour development

4. Essential characteristics of the cheese ready for consumption

4.1 Type

4.1.1 Consistency : soft

4.1.2 Short description : a soft surface ripened cheese carrying a rather intensive aromatic flavour. Usually consumed at 3-6 weeks.

4.2 Shape (usual) : cubical or rectangular

4.3 Dimensions and weights

4.3.1 Dimensions (usual) : approximately 6x6 cm. and varying in height

4.3.2 Weight (usual) : maximum 1 kg.

4.4 Rind

4.4.1 Consistency : elastic

4.4.2 Appearance : smear developed by red and yellow smear organisms

4.4.3 Colour: reddish-brown

- 4.5 Body
 - 4.5.1 Texture : soft but still sliceable
 - 4.5.2 Colour : ivory to yellow
- 4.6 Holes
 - 4.6.1 Distribution : few, irregularly distributed
 - 4.6.2 Shape : irregular
 - 4.6.3 Size : up to the size of a barley grain
 - 4.6.4 Appearance : shiny
- 4.7/ 4.8 Minimum fat contents in dry matter and maximum moisture contents 4.8

	Limburger A	20 % Limburger B	30 % Limburger C	40 % Limburger D
Minimum fat in dry matter %	50	20	30	40
Maximum moisture %	52	65	62	58
Minimum dry-matter %	48	35	38	42

- 4.9 Other essential characteristics : typical flavour developed by red and yellow smear producing bacteria during the ripening period of at least two weeks.

5. Method of manufacture

- 5.1 Method of coagulation : rennet or other suitable coagulating enzymes
- 5.2 Heat treatment : little or no heat applied-during the manufacturing procedure
- 5.3 Fermentation procedure : lactic acid fermentation with subsequent smear development
- 5.4 Maturation procedure : ripened at 12-16°C for approximately 2 weeks
- 5.5 Other essential characteristics : cheese is salted from the surface before curing or salted in brine ; the rind is regularly rubbed with brine during curing .

6. Sampling and analysis

- 6.1 Sampling : according to FAO/WHO Standard B.1, "Sampling Methods for Milk and Milk Products", clauses 7.2 (a), "Sampling by cutting" or 7.2 (c), "Taking a complete cheese as a sample".
- 6.2 Determination of fat content : according to FAO/WHO Standard B.3, "Determination of the Fat Content of Cheese and Processed Cheese Products".

7. Marking and labelling

Cheese conforming with this standard shall be designated "Limburger" and shall be labelled in conformity with the appropriate sections of Article 4 of FAO/WHO Standard A.6, "General Standard for Cheese".

The cheese mentioned under B, C and D in 4.7 and 4.8 shall be declared on the label with a prefix to the designation "Limburger" corresponding to the fat percentage, e.g. 30 % Limburger.

Draft International Individual Standard for
SAINT-PAULIN

1. Designation of cheese
Saint-Paulin
2. Depositing country
Prance (country of origin)
3. Raw materials
 - 3.1 Kind of milk : cow's milk
 - 3.2 Authorized additions
 - 3.2.1 Necessary additions
 - harmless "bacterial cultures (lactid acid producing "bacteria)
 - rennet or other suitable coagulating enzymes
 - sodium chloride
 - [3.2.2 Optional additions]
 - calcium chloride, max, 0.02 & by weight of the milk used
 - [sodium and potassium nitrate]
 - vegetable colouring matters (to he specified)
 - water
4. Essential characteristics of the cheese ready for consumption
 - 4.1 Type
 - 4.1.1 Consistency : firm, semi-hard
 - 4.1.2 Short description : Saint-Paulin is a cheese with a dry or or slightly humid rind sometimes wrapped in a plastic film or covered with wax. When cut, the cheese is of uniform colour.
 - 4.2 Shape
 - 4.2.1 Usual shape : small round loaf with slightly protruding sides (flat cylinder), whole or cut in sectors
 - 4.2.2 Permitted variations : none
 - 4.3 Dimensions and weights
 - 4.3.1 Dimensions
 - 4.3.1.1 Usual dimensions :

diameter :	approx. 20 cm.
height :	4-6 cm.
 - 4.3.1.2 Permitted variation ("Petit Saint-Paulin")

diameter :	8-13 cm.
height :	3-4.5 cm.

4.3.2 Weights

4.3.2.1 Usual weight : 1.3-2 kg.

4.3.2.2 Permitted variation : 0.25 kg. approx. (for "Petit Saint-Paulin")

4.4 Rind

4.4.1 Consistency : hard but elastic under thumb's pressure

4.4.2 Appearance : washed rind slightly humid or dry

4.4.3 Colour : beige, yellow or ochre (rind can be coated with plastic film or with wax)

4.5 Body

4.5.1 Texture : firm but flexible

4.5.2 Colour : yellow to white, uniform

4.6 Holes

4.6.1 Distribution : generally absent, but a few permitted

4.6.2 Shape : spherical or stretched (slits)

4.6.3 Size : pin-head

4.6.4 Appearance : smooth

4.7 Minimum fat content in dry matter : 40 % *)

*) At the Tenth Session of the Joint FAO/WHO Committee of Governments Experts the French industry was invited to consider the proposal to specify the fat content of cheese which would be named "Saint-Paulin" only, without a prefix or a suffix.

4.8 Minimum dry matter content : 44 %

4.9 Other essential characteristics : none

5. Method of manufacture

5.1 Method of coagulation : chiefly with rennet or other suitable enzymes but also with lactic acid

5.2 Heat treatment

5.2.1 Heat treatment of the milk : the milk is generally pasteurized

5.2.2 Heat treatment of the coagulum : the temperature of the coagulum is sometimes raised by 1 or 2° C

5.3 Fermentation procedure : lactic acid fermentation

5.4 Maturation procedure : the cheese is kept for 4 weeks at + 12° C approx.; the rind is frequently washed

5.5 Other essential characteristics

- quick clotting
- curd is cut
- curd particles are washed in pure or salted water
- curd is moulded under pressure
- cheese is salted in brine

6. Sampling and analysis

- 6.1 Sampling : according to FAO/WHO Standard B.1, "Sampling Methods for Milk and Milk Products", paragraph 7. "Sampling of cheese"
- 6.2 Determination of fat content : according to FAO/WHO Standard B.3, "Determination of the Fat Content of Cheese and Processed Cheese Products"

7. Marking and labelling

Cheese conforming with this standard shall be designated "Saint-Paulin" and shall be labelled in conformity with the appropriate sections of Article 4 of FAO/WHO Standard A.6, "General Standard for Cheese".

Except for the cheese manufactured in France, the designation "Saint-Paulin" should be accompanied, even if the cheese is sold or consumed in the country where it has been manufactured, by the mention of the producing country; this mention should be made in letters identical as to type, size and colour, to those used for the designation.

The variation as described in 4.3.1.2 and 4.3.2.2 shall be designated "Petit Saint-Paulin".

Draft International Individual Standard for
SVECIA

1. Designation of cheese
Svecia
2. Depositing country
Sweden (country of origin)
3. Raw materials
 - 3.1 Kind of milk: pasteurized cow's milk
 - 3.2 Authorized additions
 - 3.2.1 Necessary additions
 - harmless "bacterial cultures (lactid acid producing bacteria)
 - rennet or other suitable coagulating enzymes
 - sodium chloride
 - 3.2.2 Optional additions
 - calcium chloride, max. 0.02 % by weight of the milk used
 - sodium and potassium nitrate, max. 0.02 % by weight of the milk used
 - sodium dihydrogen ortho-phosphate
 - annatto, carotene, max. 0.06 % by weight of the cheese
 - water
 - caraway seeds and cloves (for a spiced variant)
4. Essential characteristics of the cheese ready for consumption
 - 4.1 Type
 - 4.1.1 Consistency : Hard to semi-hard
 - 4.1.2 Short description : Svecia is a 12-15 kg. cheese, when cylindrical covered with paraffine, when in block form wrapped in a plastic film; it has irregular numerous holes, depending on age; taste varies from mildly acid to strongly aromatic or pungent.
 - 4.2 Shape : a) flat cylinder with, convex sides
b) block with square base
 - 4.3 Dimensions and weights
 - 4.3.1 Dimensions : a) cylindrical : diameter 35 cm.
height 11-15 cm.
b) block : 36 x 36 x 9-12 cm.
 - 4.3.2 Weights : a) cylindrical : 12-15 kg.
b) block : 12-15 kg.
 - 4.4 Rind
 - 4.4.1 Consistency : hard, resilient, dry (paraffin); (rindless in film)

- 4.4.2 Appearance : smooth
- 4.4.3 Colour ; yellow
- 4.5 Body
 - 4.5.1 Texture 1 firm (for cutting), uniform
 - 4.5.2 Colour : uniform light yellow to straw
- 4.6 Holes
 - 4.6.1 Distribution : uniform and numerous
 - 4.6.2 Shape : irregular
 - 4.6.3 Size : small (pin's head to rice)
 - 4.6.4 Appearance : mostly mechanical openings between the original curd grains

4.7/4.8 Minimum fat contents in dry matter and maximum moisture contents

	A Svecia 30 %	B Svecia 45 %	C Svecia 50 %	D Svecia 60 %
Minimum fat in dry matter % *)	30	45	50	60
Maximum moisture moisture %	47	41	40	39
Minimum dry matter %	53	59	60	61

*) At the Tenth Session of the Joint FAO/WHO Committee of Government Experts the Swedish delegation was asked to provide the Committee with information as to the fat content which Sweden would regard as typical of the variety.

- 4.9 Other essential characteristics : taste slightly lactic, and also mild and mellow or pungent (depending on age)
- 5. Method of manufacture
 - 5.1 Method of coagulation : rennet or other suitable coagulating enzymes
 - 5.2 Heat treatment : the curd is heated to 38-42° C
 - 5.3 Fermentation procedure : lactic acid fermentation
 - 5.4 Maturation procedure : in dry store for more than 3 months at temperatures between 18 and 12 C
 - 5.5 Other essential characteristics : the curd is put into the moulds with inclusion of air "between the curd particles and (partly) salted; final salting in brine.

6. Sampling and analysis

- 6.1 Sampling s according to FAO/WHO Standard B.1, "Sampling Methods for Milk and Milk Products", paragraph 7, "Sampling of cheese".
- 6.2 Determination of fat content : according to FAO/WHO Standard B.3, "Determination of the Fat Content of Cheese and Processed Cheese Products".

7. Marking and labelling

Cheese conforming with this standard shall be designated "Svecia" and shall be labelled in conformity with the appropriate sections of Article 4 of FAO/WHO Standard A.6, "General Standard for Cheese".

The cheese listed in 4.7 / 4.8 shall have a suffix to the designation "Svecia" corresponding to the minimum fat percentage in the dry matter, e.g. Svecia 45 %

Draft International Individual Standard for
PROVOLONE

1. Designation of cheese
Provolone
2. Depositing countries
Italy (country of origin), United States of America
3. Raw materials
 - 3.1 Kind of milk : cow's milk
 - 3.2 Authorized additions
 - 3.2.1 Necessary additions
 - harmless bacterial cultures (lactic acid producing bacteria)
 - rennet (calf, lamb or kid, liquid or paste) or other suitable
 - coagulating enzymes
 - sodium chloride
 - 3.2.2 Optional additions
 - smoke
 - hexamethylenetetramine, max. 0.06 % of the liquid used to work the curd
 - calcium chloride, max, 0.02 % by weight of the milk used
 - artificial blue or green colour *)
 - safe and suitable enzymes to assist in flavour development
 - benzoyl peroxide as a bleach
- *) formation as to the colours used will be supplied by Italy and the United States of America.
4. Essential characteristics of the cheese ready for consumption
 - 4.1 Type
 - 4.1.1 Consistency : semi hard to hard according to age
 - 4.1.2 Short description : Provolone is a "pasta filata" cheese which is used as a table or grating cheese and may be consumed either fresh or aged.
 - 4.2 Shapes : Various
 - 4.3 Dimensions and weights : Various
 - 4.4 Rind
 - 4.4.1 Consistency :
 - 4.4.2 Appearance : commonly covered with vegetable fat and/or oil, paraffin and/or plastic film
 - 4.4.3 Colour : natural colour rind yellow to brown

- 4.5 Body
 - 4.5.1 Texture : fibrous or smooth
 - 4.5.2 Colour : white to yellow straw
 - 4.6 Holes : a few holes and splits permitted
 - 4.7 Minimum fat content in the dry matter : 45 %
 - 4.8 Maximum moisture content : 47 % or minimum dry matter content : 53 % (tentative)
 - 4.9 Other essential characteristics : sweetish, buttery taste after ripening 2 to 3 months, strong or piquant taste after ageing when rennet from kid is used.
5. Method of manufacture
- 5.1 Method of coagulation : calf's rennet for "sweet curd" and lamb or kid's rennet for "strong cheese" or other suitable coagulating enzymes
 - 5.2 Heat treatment
 - 5.2.1 Heat treatment of the milk :
 - 5.2.2 Heat treatment of the coagulum : curd is placed in hot water or hot whey and kneaded and stretched until smooth and free from lumps.
 - 5.3 Fermentation procedure : the milk is subjected to the action of lactic acid produced by bacteria present in the milk or added as a starter thereto. After the proper ripening period is reached, rennet or another suitable enzyme is added to coagulate the milk.
 - 5.4 Maturation procedure : the coagulated curd is cut, stirred and heated to promote and regulate the separation of whey from the curd. The whey is drained off, the curd is matted and cut, immersed in hot water and kneaded and stretched until it is smooth and free from lumps. The curd is then cut and placed in molds. During molding the surface is kept warm to properly seal the surface. The molded curd is then firmed by immersion in cold water before salting.
 - 5.5 Other essential characteristics : cheese is salted by immersion in "brine. Some shapes may be encased in ropes or twine before drying. The surface may be paraffined or waxed. The cheese may be smoked.
6. Sampling and analysis
- 6.1 Sampling : according to FAO/WHO Standard B.1, "Sampling Methods for Milk and Milk Products", paragraph 7, "Sampling of cheese".
 - 6.2 Determination of fat content : according to FAO/WHO Standard B.3, "Determination of the Fat Content of Cheese and Processed Cheese Products".
7. Marking and labelling :
- Cheese conforming with this standard shall be designated "Provolone" and shall be labelled in conformity with the appropriate sections of Article 4 of FAO/WHO Standard A.6, "General Standard for Cheese".

The cheese package shall bear the name or other clear indication of the producing country in the case of cheese designated by the name of the variety not originating in the producing country.

Draft International Individual Standard for
COTTAGE CHEESE, INCLUDING CREAMED COTTAGE CHEESE

1. Designation of cheese
Cottage Cheese, or in the case of a cheese conforming to the additional requirements therefor, Creamed Cottage Cheese
2. Depositing country
United States of America
3. Half materials
 - 3.1 Kind of milk : pasteurized skimmed cow's milk
 - 3.2 Authorized additions
 - harmless bacterial cultures (lactic acid and aroma producing bacteria)
 - rennet or other suitable coagulating enzymes
 - sodium chloride
 - calcium chloride, max. 0.02 % by weight of the milk used
 - water
 - 3.3 Creaming mixture for creamed cottage cheese which must be pasteurized and may contain :
 - 3.3.1 Dairy ingredients
 - cream
 - skimmed milk
 - condensed milk *)
 - non fat dry milk *)
 - dry milk protein *)
 - 3.3.2 Other permitted additions
 - harmless bacterial cultures (lactic acid and aroma producing bacteria)
 - rennet or other suitable coagulating enzymes
 - sodium chloride
 - lactic acid
 - citric acid
 - phosphoric acid
 - sodium caseinate *)
 - ammonium caseinate *)
 - calcium caseinate *)
 - potassium caseinate *)
 - stabilizing ingredients as follows : **)
 - carob been gum
 - guar gum
 - gum Karaya
 - gum tragacanth
 - calcium sulphate
 - carrageenan or its salts

- furcelleran or its salts
- gelatin
- lecithin
- alginic acid or its salts
- propylene glycol ester of alginic acid (alginderivative)
- cellulose gum (CMC)
- carrier for stabilizer as follows : **)
 - sugar
 - dextrose
 - corn syrup solids
 - dextrine
 - glycerine
 - propylene glycol

*) Weight of solids of these ingredients added singly or in any combination, not to exceed 3 % by weight of the creaming mixture

**) The solids added by the stabilizing ingredients, including the carrier, shall not exceed 0.5 % by weight of the creaming mixture.

4. Essential characteristics of the cheese ready for consumption

- 4.1 Type : a soft unripened, acid-coagulated curd having discrete curd particles of relatively uniform size and in the case of creamed cottage cheese covered with a creaming mixture
- 4.2 Shape (size of curd) : individual granules, comparatively uniform, from approximately 3-12 mm. depending on whether small or large type curd is desired.
- 4.3 Dimensions and weights : sold in containers of varying capacity
- 4.4 Hind : none
- 4.5 Body
 - 4.5.1 Texture : soft granules or, in the case of creamed cottage cheese, soft
 - 4.5.2 Colour : natural white without added colour or, in the case of creamed cottage cheese, natural white to light cream without added colour
- 4.6 Holes : none
- 4.7 Minimum fat content of the product :
 - a) cottage cheese : none
 - b) creamed cottage cheese : 4.%
- 4.8 Maximum moisture content : 80 %
- 4.9 Other essential characteristics : the flavour is "bland to mild, typical of a milk product cultured with lactic acid and aroma producing bacteria; the cheese is sold as fresh uncured cheese.

5. Method of manufacture

- 5.1 Method of coagulation : the coagulation is produced by the action of lactic acid bacteria with or without the addition of a small amount of a coagulating enzyme
- 5.2 Other essential characteristics
 - 5.2.1 Curd is cut into cubes approximately 7-15 mm. depending on whether small or large type of curd is desired
 - 5.2.2 During cooking, the curd is stirred slowly and gently to avoid damage to the cubes and to produce the desired body and texture
 - 5.2.3 After cooking the curd is washed with water to remove excess acid. The curd is then drained.
 - 5.2.4 Salt may be added to the finished curd or, in the case of creamed cottage cheese, to the creaming mixture.
 - 5.2.5 In the case of creamed cottage cheese, sufficient creaming mixture is added and mixed with the curd particles to meet the minimum fat requirements and not exceed the maximum moisture content of the finished product.

6. Sampling and analysis

- 6.1 Sampling : sample bulk containers (minimum 2 kg.) by stirring entire contents thoroughly so that all portions of the cheese are reached and uniformly mixed. Remove portions with a spoon to fill a container approximately 500 grams; close tightly, place under refrigeration immediately. For consumer size packages one or more units of one litre or less may be used to obtain a 500 grams sample.

7. Marking and labelling

Cheese conforming with, this standard shall be designated "Cottage Cheese" or "Creamed Cottage Cheese" as appropriate, and shall be labelled in conformity with the appropriate sections of Article 4 of FAO/WHO Standard A. 6, "General Standard for Cheese". *)

*) At its Tenth Session the Joint FAO/WHO Committee of Government Experts agreed that governments be asked to consider whether a provision should be inserted advising that the label should include a statement as to the desirability of keeping the product under refrigeration.

DRAFT OF GENERAL STANDARD NO. A-8 (a) FOR PROCESS (ED) CHEESE AND SPREADABLE PROCESS (ED) CHEESE

1. Definition

Process(ed) cheese and spreadable process(ed) cheese are made by grinding, mixing, melting and emulsifying with the aid of heat and emulsifying agents one or more varieties of cheese.

2. Emulsifying Agents

2.1 Not more than 4 percent. Not more than 3 percent can be mono- or polyphosphates.

2.1.1 The sodium, sodium-aluminium, potassium and calcium salts of the mono- and polyphosphoric acids.

2.1.2 The sodium, potassium and calcium salts of the citric and lactic acids.

2.1.3 Citric acid and/or phosphoric acid with sodium bicarbonate and or calcium carbonate so that the resulting salts are within the limits specified in 2.1.

2.2 Percentages refer to anhydrous emulsifying agents by weight of the finished products.

3. Optional Ingredients

3.1 Cream, butter and/or butter oil may be added in quantities to insure compliance with the minimum fat requirements.

3.2 Salt (sodium chloride).

3.3 Spices and other vegetable seasonings.

3.4 Natural foodstuffs other than milk products for flavouring purposes, such as fruits, vegetables, or meats properly cooked or otherwise prepared; dry matter not to exceed 1/6 of the weight of the total solids of the finished products.

4. Optional Food Additives

4.1 Natural colouring matters and such artificial colouring matter as approved by the Codex Alimentarius.

4.2 Sodium bicarbonate, calcium carbonate, calcium chloride.

4.3 Citric acid, phosphoric acid, acetic acid, vinegar, and lactic acid used as acidifying agents within the limits of 2. "Emulsifying Agents" above.

4.4 Sorbic acid and its sodium and potassium salts up to a maximum of 2,000 p.p.m. in the finished product.

4.5 Propionic acid and its sodium and calcium salts up to a maximum of 3,000 p.p.m. in the finished product.

4.6 Nisin up to a maximum of 100 p.p.m. in the finished product.

5. Heat Treatment

During its manufacture process(ed) cheese and spreadable process(ed) cheese shall be heated to a temperature of 70° C for 30 seconds, or any other equivalent time/temperature combination.

6. Compositions and Designation

6.1 Process(ed) cheese whose designation includes a single variety name :

6.1.1 shall contain not less than 75 % by weight of that variety and the remainder must be cheese of a similar variety, provided that this does not change the characteristics of the product made from the main cheese

6.1.2 shall have a milk fat content in the total dry matter not less than prescribed for that variety;

6.1.3 shall have a total dry matter content of not less than 4 % below that prescribed for that variety, except in the following cases : *)

*) Governments are invited to advise the FAO/WHO Secretariat on possible exceptions to these rules as regards products carrying a cheese variety name. In this connection it should be noted that the requirements provided for 4 % were made in order to have the minimum number possible of exceptions.

6.2 Process(ed) cheese whose designation includes two or more variety names :

6.2.1 shall contain cheese only of the varieties named;

6.2.2 shall have a milk fat content in the total dry matter not less than the arithmetical average of the minimum milk fat requirements prescribed in the standards for the varieties used;

6.2.3 shall have a total dry matter content of not less than 4 % below the arithmetical average minimum content prescribed in the standards for the varieties used, except in the following cases: *)

*) Governments are invited to advise the FAO/WHO Secretariat on possible exceptions to these rules as regards products carrying a cheese variety name. In this connection it should be noted that the requirements provided for 4 % were made in order to have the minimum number possible of exceptions.

6.2.4 The weight of each variety of cheese in a process(ed) cheese made from two varieties of cheese shall not be less than 25 % of the total weight of both, except when blue veined cheese or strong flavoured cheese is included. **)

**) For example : Roquefort or Gorgonzola cheese shall not be less than 10 % of the total weight of the two varieties; Limburger not less than 5 %, etc

The Weight of each variety of cheese in a process(ed) cheese made from three or more varieties of cheese shall not be less than 15 % of the total weight of all, except when blue veined cheese or strong flavoured cheese is included. ***)

***) For example : Roquefort or Gorgonzola cheese shall not be less than 5 % of the total weight of the three varieties; Limburger not less than 3 %, etc.

6.3 Process(ed) cheese not designated by a variety names

6.3.1 shall carry the statement of the fat content in the dry matter in multiples of 5 percent;

6.3.2 shall have a minimum fat content in dry matter and a and a minimum dry matter content as follows :

<u>Fat in dry matter (FDB) %</u>	<u>Dry matter %</u>
65	58
60	57
55	56
50	55
45	53
40	51
35	49
30	47
25	45
20	43
15	42
10	41
less than 10	39

6.4 Spreadable process(ed) cheese shall meet all of the requirements for process(ed) cheese except those prescribed by 6.1.3, 6.2.3 and 6.3.2, and :

6.4.1 shall carry the statement of the fat content in the dry matter in multiples of 5 percent;

6.4.2 shall have a minimum fat content in dry matted and a minimum dry matter content as follows :

<u>Fat in dry matter (FDB) %</u>	<u>Dry matter %</u>
65	45
60	44
55	44
50	43
45	41
40	39
35	36
30	33
25	31
20	29
15	29
10	29
less than 10	29

7. Marking and Labelling

See Article 7. "Marking and Labelling" of the draft of Standard A-8 (b) contained in Appendix VIII - B of the Report.

DRAFT OF GENERAL STANDARD NO.A-8(b) FOR PROCESSED CHEESE FOOD

1. Definition

Process (ed) cheese food is made by grinding, mixing, melting, and emulsifying with the aid of heat and emulsifying agents one or more varieties of cheese, including one or more milk products in liquid, dry condensed or fermented form.

2. Emulsifying Agents

- 2.1 Not more than 4 percent. Not more than 3 percent can be mono-or polyphosphates.
- 2.1.1 The sodium, sodium-aluminum, potassium, and calcium salts of mono- and polyphosphoric acids.
- 2.1.2 The sodium, potassium, and calcium salts of citric and lactic acids.
- 2.1.3 Citric acid, and/or phosphoric acid with sodium bicarbonate and/or calcium carbonate so that the resulting salts are within the limits specified in 2.1.
- 2.2 Percentages refer to anhydrous emulsifying agents by weight of the finished product.

3. Optional Ingredients

- 3.1 Natural foodstuffs for flavouring purposes such as fruits, vegetables, or meats properly cooked or otherwise prepared, and nutritive sweetening agents.
- 3.2 Salt (sodium chloride).
- 3.3 Spices and other vegetable seasoning.

4. Optional Food Additives

- 4.1 Natural colouring matters and such artificial colouring matter as approved by the Codex Alimentarius.
- 4.2 Sodium bicarbonate, calcium carbonate, calcium chloride.
- 4.3 Citric acid, phosphoric acid, acetic acid, vinegar, and lactic acid used as acidifying agents within the limits of 2. "Emulsifying Agents" above.
- 4.4 Sorbic acid and its sodium and potassium salts up to a maximum of 2,000 p.p.m. in the finished product.
- 4.5 Nisin up to a maximum of 100 p.p.m. in the finished product.
- 4.6 Propionic acid and its sodium and calcium salts up to a maximum of 3,000 p.p.m. in the finished product.
- 4.7 Vegetable gums and related water-binding substances not in excess of 0.8 %by weight of the finished product.
- 4.7.1 Locust bean gum, carob bean gum, gum karaya, guar gum, oat gum, gum tragacanth, agar-agar, algin (sodium alginate), carrageenin, carboxymethyl-cellulose (cellulose gum), algin

derivative (propylene glycol ester of alginic acid), pectin, and gelatin.

5. Heat Treatment

During its preparation, the process (ed) cheese food shall be heated to 70°C for 30 seconds, or any other equivalent time/temperature combination.

6. Composition and Designation

6.1 Process (ed) cheese food shall not be designated by a variety name and :

6.1.1 shall bear a statement of the fat content in dry matter in multiples of 5 percent;

6.1.2 shall have a minimum fat content in dry matter and a minimum dry matter content as follows :

<u>Fat in dry matter (FDB) %</u>	<u>Dry matter %</u>
65	45
60	44
55	44
50	43
45	41
40	39
35	36
30	33
25	31
20	29
15	29
10	29
less than 10	29

6.1.3 at least 51 % of "the dry matter of the finished product shall be arrived from cheese.

7. Marking and Labelling (Also applicable to Standard A-8,(a) contained in Appendix VIII - A.)

The original pack of products shall carry the following declarations in clearly visible characters :

7.1 Designation of the product

7.1.1 Process (ed) Cheese or Spreadable Process (ed) Cheese

7.1.1.1 The name of a product made from a single variety and designated by a variety name shall be "Process (ed) _____ Cheese" or "Spreadable Process (ed) _____ Cheese" as applicable, the blank being filled with the name of the variety of cheese used.

7.1.1.2 The name of a product made from two or more varieties of cheese and designated by a variety name, shall be "Process (ed) _____ and _____ Cheese", or "Spreadable Process (ed) _____ and _____ Cheese" as applicable, the blanks being filled with the names of the

varieties of cheese used in order of predominance by weight.

7.1.1.3 The name of a product which does not bear the variety name of a cheese shall be "Process (ed) Cheese" or "Spreadable Process (ed) Cheese" as applicable.

7.1.2 Process (ed) Cheese Food

7.1.2.1 No cheese variety shall be used in the name.

7.1.3 In case the products described under 7.1.1 and 7.1.2 include fruits, vegetables, meats or spices, the name of the product shall be the one applicable above followed by the term "with _____", the blank being filled in with the common or usual name or names of the fruits, vegetables, meats or spices used in order of predominance by weight. The fruits, vegetables, meats or spices shall be present in sufficient quantity to characterize the product.

7.2 Ingredients listing :

7.2.1. For products produced under 7.1.1, the food additives permitted in 4.4, 4.5 and 4.6 shall be listed on the package.

7.2.2 For products produced under 7.1.2, optional ingredients and additives shall be listed by the common or usual name, except additives under 4.1, 4.2 and 4.3.

7.3 The net weight, except on individual portions not intended for separate sale.

7.4 The name and address of the manufacturer, of the importer or of the seller, except on individual portions not intended for separate sale, in which case the mention may be replaced by a trademark or other indication of the manufacturer, or importer, or seller.

7.3 The name of the producing country (for export only).

DRAFT OF STANDARD FOR PASTEURIZED BLENDED CHEESE

1. Definition

Pasteurized blended cheese is made by grinding, mixing and heating one or more varieties of rennet coagulated cheese. When two or more varieties of cheese are used only one may be an acid coagulated variety.

2. Optional Ingredients

- 2.1 Salt (sodium chloride).
- 2.2 Spices and other vegetable seasonings.

3. Optional Food Additives

- 3.1 Natural colouring matters and such artificial colouring matters as approved by the Codex Alimentarius.
- 3.2 Sorbic acid and its sodium and potassium salts up to a maximum of 2,000 p.p.m. in the finished product.
- 3.3 Propionic acid and its sodium and calcium salts up to a maximum of 3,000 p.p.m. in the finished product.
- 3.4 Nisin up to a maximum of 100 p.p.m. in the finished product.

4. Composition and Designation

- 4.1 Pasteurized blended cheese designated by a variety name :
 - 4.1.1 shall contain not less than 75 % by weight of that variety and the remainder must be cheese of a similar variety, provided that this does not change the characteristics of the product made from the main cheese;
 - 4.1.2 shall have a milk fat content in the total dry matter of not less than prescribed for that variety;
 - 4.1.3 shall have a total dry matter content of not less than 1 % below that prescribed for that variety.
- 4.2 Pasteurized blended cheese whose designations include two or more variety names :
 - 4.2.1 shall contain only cheese of the varieties named;
 - 4.2.2 shall have a milk fat content in the total dry matter not less than the arithmetical average of the minimum milk fat requirements prescribed in the standards for the varieties used ;
 - 4.2.3 shall have a total dry matter content of not less than 1 % below the arithmetical average minimum content prescribed in the standards for the varieties used;
 - 4.2.4 The weight of each variety of cheese in a pasteurized blended cheese made from two varieties of cheese shall not be less than 25 % of the total weight of both, except when blue veined cheese or strong flavoured cheese is included. *) The weight of each

variety of cheese in a pasteurized blended cheese made from three or more varieties of cheese shall not be less than 15 % of the total weight of all, except when blue veined cheese or strong flavoured cheese is included. **)

*) For example : Roquefort or Gorgonzola shall not be less than 10 % of the total weight of both; Limburger not less than 5 % etc.

**) For example : Roquefort or Gorgonzola shall not be less than 5 % of the total weight of all; Limburger not less than 3 % etc

4.3 Pasteurized blended cheese not designated by a variety name :

4.3.1 shall carry the statement of the content in dry matter in multiples of 5 percent;

4.3.2 shall have a minimum fat content in dry matter and a minimum dry matter content as follows :

<u>Fat in dry matter (FDB) %</u>	<u>Dry matter %</u>
65	58
60	57
55	56
50	55
45	53
40	51
35	49
30	47
25	45
20	43
15	42
10	41
less than 10	39

5. Marking and Labelling

5.1 Designation of the product :

5.1.1 The name of a product made from a single variety of cheese shall be "Pasteurized Blended_____ Cheese", the blank being filled in with the name of the variety of cheese used.

5.1.2 The name of a product made from two or more varieties of cheese shall be "Pasteurized Blended ____ and_____ Cheese", the blanks being filled in with the name of the cheeses used in order of predominance by weight.

5.1.3 The name of a product which carries no variety name shall be "Pasteurized Blended Cheese".

5.1.4 The name of a product which includes spices shall be "Pasteurized Blended Cheese with _____ " or "Pasteurized Blended (variety name) Cheese with _____ ", the blanks being filled in with the common or usual name or names of the spices used in order of predominance by weight. The spices shall be present in sufficient quantity to characterize the product.

- 5.2 Ingredients listing : the optional ingredients and additives shall be listed by their common or usual name.
- 5.3 The net weight, except in individual portions not intended for separate sale.
- 5.4 The name and address of the manufacturer, of the importer or of the seller, except on individual portions not intended for separate sale, in which case the mention may be replaced by a trademark or other indication of the manufacturer, importer or seller.
- 5.5 The name of the producing country (for export only).

DRAFT OF STANDARD FOR CREAM

1. Definition

Cream is the fatty milk product separated from milk and which takes the form of a fat-in-water emulsion.

2. Composition

A product conforming to the definition shall not be designated "cream" unqualified unless it has a fat content of not less than 18 %. A product conforming to the definition with a fat content which is less than 18 % but not less than 10 % shall not be designated "cream" unless the word "cream" is appropriately qualified.

3. Labelling

The product shall be marked clearly, legibly and prominently displayed, as follows :

- 3.1 The name of the product (e.g. cream, half cream)
- 3.2 The net contents of the container
- 3.3 The percentage of milk fat by weight in the product

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).

CODE OF PRINCIPLES CONCERNING MILK AND MILK PRODUCTS:

First Edition 1960

Second Edition 1961

Third Edition 1962

Fourth Edition 1963

Fifth Edition 1966

Issued by the Secretariat of the
Joint FAO/WHO Food Standards, FAO Rome

Ref. No. SP-10/105, 10th Session, September 1967