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ALINORM 72/16

JOINT FAO/WHO FOOD STANDARDS PROGRAMME
CODEX ALIMENTARIUS COMMISSION

Ninth Session, Rome
6-17 November 1972

REPORT OF THE
CODEX COMMITTEE ON PROCESSED MEAT PRODUCTS

Sixth Session
17-21 April, 1972
Copenhagen, Denmark

Introduction

1. The Codex Committee on Processed Meat Products held its Sixth Session in Copenhagen, Denmark, from 17 - 21 April, 1972 by courtesy of the Government of Denmark. Dr. V. Enggaard (Denmark) was in the chair.
2. The session was opened by Mr. Johannes Jensen (Head of Division, Ministry of Agriculture) who welcomed the participants on behalf of the Minister of Agriculture.
3. Representatives from the following 29 countries were present: Argentina, Australia, Belgium, Brazil, Canada, Czechoslovakia, Denmark, France, Finland, Federal Republic of Germany, Hungary, Iran, Ireland, Italy, Japan, Kenya, Netherlands, New Zealand, Norway, Peru, Poland, South Africa (observer), Spain, Sweden, Switzerland, Thailand, United Kingdom United States of America and Venezuela. Observers were present from the following international organizations: Union des Industries de la Communauté Européenne (UNICE), European Economic Community (EEC), International Organization of Consumer's Unions (IOCU), International Pectin Producers Association and International Standardization Organization (ISO).

Adoption of Provisional Agenda

4. The Committee adopted the Provisional Agenda.

Election of Rapporteurs

5. On the proposal of the Chairman, the Committee appointed Mr. I.M.V. Adams (U.K.) and Mr. J. Rivière (France) as Rapporteurs of the Session.

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

6. The Committee was informed that the Commission had agreed to establish a Committee of meat and that this Committee would continue the work on the proposed Draft code of Hygienic practice for Fresh Meat

7. In respect of the question of liaison and relationship between the Codex Committees on Meat Hygiene and on Processed Meat Products concerning meat hygiene, the Committee was informed that the Commission had agreed that overlap of the work done by the two Committees should be avoided. The Commission had further agreed that the Code of Hygienic Practice for Processed Meat Products under elaboration by the Committee would not have to be reviewed by the Codex Committee on Food Hygiene.

8. The Committee was informed that the Commission had decided to advance the Standard for Canned Pork Shoulder to Step 6 of the Procedure.

Consideration of Expressions for the Content of Meat for Canned Hams and Canned Pork Shoulder

9. The Committee had before it a paper (CX/PMP 72/2) prepared by the Danish Secretariat in collaboration with the delegations of the Netherlands and the United Kingdom in accordance with a decision taken at the 5th Session of the Committee on the above issue and a number of supporting document (CX/PMP 72/3, 4, 4A, 5 and 6).

The Chairman gave an outline of the background for seeking an expression for the meat content and pointed out that this question had been discussed by the Committee since its second Session in 1967.

10. The Danish Secretariat introduced the working document concerning expressions for the content of meat and explained that it mainly dealt with an evaluation of four different expressions for meat content:

1. "meat content" method (Stubbs and More);
2. "added substances" method;
3. "water/protein ratio"; and
4. "protein on fat-free basis" method.

This evaluation was based on the information made available to the Committee over the years concerning these expressions, and had been made according to the following three criteria:

- a. the influence of the variations of the raw material should be as small as possible;
- b. the addition of any non-meat ingredient should be reflected as correctly as possible; and
- c. the influence of specific production techniques should be as small as possible, i.e. the method should not be based on any specific production technique which could not reflect international practices.

The conclusion of the evaluation was, that the "protein on fat-free basis" and the "meat content" methods were the most suitable expressions as they reflected the addition of any non-protein ingredient and as they were not based upon any specific production technique.

It was noted that this conclusion only referred to the products under consideration i.e. canned hams and canned pork shoulders and that the question of an expression for the

meat content for products of different types had not been dealt with and might warrant considerations of a different nature.

Furthermore it was pointed out that none of the methods under consideration were able to give completely correct expressions of the meat content of any specific final product due to the natural variations of the composition of the raw material and the variations caused by the different production techniques used. The methods should be considered as expressing approximations in this respect, and the criteria used for evaluating the four methods had been selected to minimize the effects of the variations.

Finally a comparison had been made between the "protein on fat-free basis" method and the "meat content" method. The basic difference between these two methods was shown to be that the "meat content" method counts the analytical fat content towards the total meat content while the "protein on fat-free basis" method only takes account of the (analytically) fat-free meat. This means that a limitation based on the "meat content" method restricts the total amount of ingredients added to the meat irrespective of the fat content, whereas a limitation of the "protein on fat-free basis" restricts the amount of ingredients added to the fat-free portion of the meat.

The working document further discussed the questions of (i) the influence of the natural protein content of fat per se, (ii) the influence of added protein as gelatine, and (iii) the influence of the protein content of the rind in the use of products with skin.

Finally the issue of choosing a limit for insertion into the standards had been considered in the working document and it had been suggested that two different approaches might be followed with regard to this question:

- A. Selection of an absolute minimum value which should be complied with by any single unit of the products to which the standard applied;
- B. Selection of a mean arithmetical minimum value combined with a sampling procedure which allowed for the natural and the processing variations and which operated with an absolute minimum value below which no single unit of the products might fall.

11. The delegations of Belgium, Denmark, France, the Federal Republic of Germany, Italy, the Netherlands and the United Kingdom expressed themselves in principle in favour of accepting the percentage "protein on a fat-free basis" as a means for regulating the meat content of canned hams while at the same time realizing that none of the four methods were perfect. Several of the delegations indicated that the methods at present in existence in their countries differed from the proposed basis but that they would be willing to accept the principle of expressing the meat content as % protein on a fat-free basis whilst recognizing the limitations of this approach.

The Committee consequently agreed to specify in the standards that in case of disputes with regard to the meat content of canned hams and pork shoulders the content of meat should be expressed as the percentage of protein (nitrogen % multiplied by the conversion factor 6.25)

on a fat-free basis calculated on the total content of the container. No decision was taken whether this should be the "total protein" or the "meat protein".

The delegation of the U.S.A. indicated that in its view further study of the matter was required before it could accept the proposal on which the Committee had agreed. The Netherlands delegation also considered that considerable further study was required.

Working Party on Analytical Parameters of Canned Hams and Shoulders

12. The Committee agreed to insert in the sub-sections "Essential quality factors" of the Standards for Canned Hams and Canned Pork Shoulders a provision for the meat content and appointed a small working party with the following terms of reference:

To consider the implications of the analytical figures before the Committee and to indicate how far they might form the basis of meaningful recommendations for an absolute minimum and minimum arithmetic mean levels for the protein content taking into account the nature of hams and pork shoulders accepted in national and international trade.

Members of the working party were Messrs J. van den Bossche (Belgium), R.S. Hannan (United Kingdom), N.E. Jarman (New Zealand) and K. Pedersen (Denmark).

13 The figures which were studied were contained in the following papers before the Committee - CX/PMP 72/2, CX/PMP 72/4, CX/PMP 72/6, CX/PMP 70/5 and CX/PMP 70/5A. These all refer to hams which were heat processed in rigid cans and the conclusions of the Ad Hoc Group therefore only apply to products of this type. The figures were, moreover, limited in scope and in the short time available only a preliminary statistical examination could be made and therefore the conclusions are correspondingly tentative.

14. The expression "Protein on a Fat Free Basis" was found difficult to translate and use of the abbreviation P.F.F. was recommended.

15. Some of the analytical figures which were studied had been obtained with hams which contained added gelatine. In general the figures as presented in the original documents were considered and no attempt was made to correct for the presence of gelatine in the calculations.

Gelatine is likely to be added at a level of 0.5 to 1.0% equivalent to 0.7% protein on average.

16. The P.F.F. figures quoted by Japan (CX/PMP 72/4) were substantially higher than those from Europe and North America and it was decided to omit these from the detailed statistical examination. Moreover these products seemed to offer no compositional problems for the present standard.

17. The figures for the remaining 170 hams were examined and subjected to recalculation. It was found that they had the following characteristics:

Arithmetic Mean = 19.3%, Standard Deviation (S.D.) = 2.0% P.F.F.

In other words approximately 95% of the samples fell within the range 15.3 to 23.3% P.F.F. (mean - 2 S.D.), or approximately 2\frac{1}{2}\% fell below 15.3%.

18. Smaller samples of individual types of ham within the overall population appeared to have S.D. of 1%. A product at the lower end of the range would therefore need to have an arithmetic mean of 17.3 to maintain the lower limit of 15.3 at a 2 S.D. level.

19. The Ad Hoc Group suggested that the figure of 17.3 combined with the concept of a 2 S.D cut-off level at 15.3% P.F.F. could be helpful for first consideration by the Committee.

20. The figures given above appeared to be consistent with a hypothetical product of the following character:

Mean P.F.F. value for original pork	22.0%
Fat content of original pork	10.0%
Added ingredients including water	25.0%
Processing losses	None

In practice processing losses of up to 2% P.F.F. could be expected depending on the method of processing but no figures were available in the papers under consideration.

21. On the basis of the examination of gelatine-containing hams (document CX/PMP 7O/5A), the figures proposed by the Ad Hoc Group were compared with other parameters in use in Europe and North America.

17.3% P.F.F. being approximately equivalent to: Water/Protein (Ham Meat)	4.13
Added substances	13.7%
<u>15.3% P.F.F. being approximately equivalent to: Water/Protein (Ham Meat)</u>	4.61
<u>Added Substances</u>	22.3%

Figures for canned shoulder were not examined in detail but since the P.F.F. for shoulder meat could be accepted as being 21.0% in comparison with 22.0% for hind leg meat, the minimum arithmetic mean and the cut-off level would presumably be reduced by approximately 0.7%.

22 It was recommended that Governments should examine hams of minimum acceptable protein level on a sufficient scale to derive meaningful mean and standard deviation. These could then be used to derive minimum arithmetic mean and cut-off level. Any use of gelatine should be specifically defined.

23. To summarize:

- a. The figures used for the study appear to be consistent with a minimum arithmetic mean for canned hams of 17.3% P.F.F. and for pork shoulders of 16.6% P.F.F.
- b. Cut-off levels (2 standard deviations below the mean) would be 15.3% P.F.F. for canned hams and 14.6% P.F.F. for pork shoulders.
- c. The presence of gelatine could increase these figures by about 0.5% P.F.F.
- d. The figures given above should be regarded as very tentative and should be confirmed by examination of a proper statistical sample of hams of minimum acceptable protein content.

24. The Committee agreed that the tentative figures proposed by the working party should be inserted in the Standard for Canned Hams and Canned Pork Shoulder in square brackets and that governments should be invited to give specific comments on these figures in the light of appropriate statistical material. The Committee further agreed that suitable statistical sampling plans should be elaborated on a sufficient scale to derive a meaningful arithmetic mean and standard deviation.

Reconsideration of Draft Standard for Canned Hams at Step 7

25. The Committee considered the above Standard (Appendix III to ALINORM 71/16) which had been returned to Governments for a further round of comments (document

CX/PMP 72/7) The main points emerging from the Committee's discussions are recorded hereunder.

Title and Scope Section

26. In considering the title of the Draft Standard, the Committee in the first instance decided not to make any amendments and the consensus of opinion reached during the fifth Session of the Committee was re-affirmed, namely that the term "canned" referred to the whole process of filling and heat-treatment after, or, where aseptic packaging techniques are employed, before sealing in containers of the types permitted by the standard.

27. However, at a later stage during the discussions of the hygiene section and in particular sub-section 5.2.4 stating that "The product shall be packaged in hermetically sealed containers which do not permit contamination and which shall be clean and show the characteristics of sound containers and, where applicable to the type of container, shall show visible vacuum", there appeared to be considerable difference of opinion as to the meaning of the words "hermetically sealed containers". Some delegations considered that such containers should have structural rigidity whereas other delegations were of the view that flexible packaging materials with sufficient physical and mechanical strength did not give rise to a health risk. A further issue was whether clipping or crimping with a metal seal constituted a hermetic seal and therefore also was permitted.

28. After the opinion had been expressed that the Standard primarily was intended to cover one type of product, as described in the sections on Composition and Food Additives, the question was raised whether or not it would be necessary to elaborate two separate Standards to cover hams packed in rigid and non-rigid containers respectively, or whether a single Standard for processed hams irrespective of the packaging material used could suffice provided the Standard was made to accommodate both types of packaging material.

29. Several delegations pointed out that in their view the Standard was not intended to cover for example "open pack" hams which nevertheless were widely produced and appeared also in international trade. No agreement could be reached on this issue, and it was later decided to seek further Government comments on the wording of the scope section with respect to this point.

30. It was finally decided to amend the title of the Standard by deleting the reference to "canned" and inserting "cooked cured" before "hams"..

31. Since the Standard as drafted did not cover all types of ham and pork shoulder in trade, the Committee decided to seek the opinion of the Legal Office of FAO as to whether, under the acceptance provisions of the Codex Alimentarius Commission, the use of the names included in sub—section 6.1.1 would be reserved to those products covered by the Standards and whether these names would not be permitted to be used on products meeting the requirements of the Standard as to the product itself but produced or packed in a different manner, for example open packed or sliced products. The Committee in this connection further sought advice as to what the requirements with respect to designation would be for products in general, not necessarily complying with all the relevant requirements of the standards, but which were now traded as ham or pork shoulder.

32. The Chairman pointed out that the Commission at its Eighth Session had discussed the procedure of acceptance of Codex Standards and with reference to para

22 of ALINORM 71/31 stated that the Commission recognized that at a later stage, in the light of further experience, it might be desirable to refer some aspects of the acceptance procedure to the Codex Committee on General Principles.

32. The Committee, however, felt that in view of the importance of the issue with respect to these particular Standards, the opinion of the Legal Office on the above question should be sought.

34. The delegation of Denmark stated that in its view it was discriminatory to exclude a product, which met the requirements of the Standard with regard to the product proper, from being covered by the Standard when packed after processing in a material and according to techniques sufficient to ensure that the product remained wholesome under the relevant distribution system, taking into consideration that also local distribution will be included, once the Standard is accepted. This point of view was further stressed by the present lack of clarification of the consequences as to designation of products outside the Standard, when this Standard was accepted.

35. The Danish delegation further pointed out, that this whole question of reserved use of names of a type which also correctly could describe products falling outside a Standard, was a general problem applicable not only to hams and pork shoulder.

36. The delegation of Denmark therefore proposed to amend the Scope and Description sections as follows:

Scope

The provisions of this Standard apply to cooked cured hams in any suitable packaging material.

Description

The heat treatment, the type of cure and the packaging material shall be sufficient

Section 2 - Description

37. In line with the decision made to change the title of the Standard the Committee decided to amend the last sentence of the Description Section to read: "The heat treatment known as cooking and the type of cure and packaging shall be sufficient

38. The Committee agreed to define "cooked" and inserted sub-section 5.2.3 in a slightly amended form as a subsidiary definition.

Section 3 - Essential Composition and Quality Factors

39. Regarding the sub-section 3.1 Essential Ingredients, some delegations were in favour of replacing the term "ham" by a more specific wording applicable to the raw product. The Committee agreed to modify the text of the provision to read "uncured ham". The Committee then considered that the term "water" could be misleading, as water was not used as an ingredient as such but only as a constituent of brine and that "salt" had to be more specifically described. Furthermore it was agreed that nitrite was an essential ingredient of the product in question and the text should therefore read: "brine, consisting of water and salt (sodium chloride) and sodium or potassium nitrite."

40. The Committee discussed whether in sub—section 3.2 Optional Ingredients, the wording "sugars as defined by the Codex Alimentarius Commission" was intended for the purpose of including a class title or whether such a provision referred to Codex specifications for sugar products. The Committee further noted that the "General

Standard" did not include sugars as a class title. After discussion the Committee agreed that it would be necessary to list specifically the sugars permitted, namely: saccharose (sucrose), invert sugar, dextrose (glucose), lactose, maltose and glucose syrup (including corn syrup).

41. Regarding the provision for hydrolyzed protein, the Committee confirmed its previous decision that both hydrolyzed proteins of animal and vegetable origin might be used and agreed that these products, such as monosodium glutamates should be regarded as flavour enhancers.

42. The Committee decided to amend sub-section 3.3.2 as the use of packaging materials other than tin—plate might give rise to contamination, e.g. because of migration of solvents.

43. As mentioned in para 24, the Committee agreed to insert - in square brackets - a new subsection "Meat Content" in the Standard. The figures given were by no means considered final and Governments were specifically requested to comment on the provision in its entirety.

Section 4 - Food Additives

44. Following a proposal made by the United Kingdom the Committee recognized that the heading for the list of additives was somewhat misleading and agreed that after the words "Maximum level" the words "of use" had to be deleted.

45. The Committee was informed that guanylic and inosinic acids had not yet been given a toxicological evaluation, it was further informed that these additives were used as flavour enhancers. The Committee decided to leave the provision for these food additives unchanged in the Standard.

46. The delegation of the United Kingdom informed the Committee that in general there was a lack of knowledge as to the precise level of these additives required in the curing meat and in particular the need for nitrate and the minimum concentration of nitrite required to inhibit the development of Clostridium botulinum, a known health risk. In addition there was a further problem associated with the use of nitrites, namely the presence of very small amounts of nitrosamines, a non proven health risk. In view of the research being currently undertaken in a number of countries into the use of nitrates and nitrites and the difficult toxicological problems arising from their use and the fact that these additives have been only temporarily endorsed, the levels appearing in the Standard should not be amended at this stage.

47. Regarding the provision for added phosphates, the Committee was of the opinion that there was no need to specify further that the level allowed would refer to added phosphates only.

48. The delegate of Denmark proposed to include in the list a provision for artificial smoke agents. This provision would cover products for smoking in use at present as well as other products to be used in the future. The Committee recognized that the Council of Europe (Partial Agreements) was already dealing with these additives, which had also been referred to the Joint FAO/WHO Expert Committee on Food Additives. The Committee agreed to include a provision for "Natural smoke agents and their extracts and their identical synthetic equivalents", to be used in quantities limited by good manufacturing practice.

The Committee further agreed to ask the Codex Committee on Food Additives to examine this question at its next Session in May 1972, in order to have these additives

toxicologically evaluated if possible and subsequently examined by the Joint FAO/WHO Expert Committee on Food Additives.

49. The representative of UNICE informed the Committee that in some countries consideration was being given to the replacement of table salt by low sodium substitutes in hams. The Committee was informed that this matter would be considered by the Codex Committee on Food Additives at its next Session and that a Standard for salt substitutes had been developed by the Codex Committee on Foods for Special Dietary Uses and was to be sent to Governments for acceptance.

Section 5 - Hygiene

50. The Committee agreed to amend the text in sub-section 5.2.2 to read "meat and meat products shall be handled and stored in an establishment in such a manner as to prevent deterioration and contamination". It also agreed to change the term "commercial conditions" in sub-section 5.2.3 to read "normal conditions". It further agreed that this sub-section, which constituted a definition of the heat-treatment, would be moved to section 2 - Description.

51. Regarding sub-section 5.2.4 the Committee considered that, as the Standard covered products packed in rigid as well as non-rigid containers, this sub-section had nevertheless to provide for such materials which would not permit contamination through punctures or other mechanical ruptures in the course of normal conditions of handling. The Committee agreed to the following text: "The product shall be packaged in hermetically sealed containers, manufactured of materials which do not permit contamination under normal conditions of handling. The containers shall be clean and show the characteristics of sound containers and, where applicable to the type of container, shall show visible vacuum." (See also para 27 of this Report)

52. The Committee considered sub-section 5.2.5 regarding the quality of water to be used for cooling containers and noted the Argentina requirement for chlorinated water. It agreed that water of potable quality had not to be treated and to amend the phrase "and suitably treated" to read "or suitably treated". It further agreed that re-circulated water had to be filtered before use or re-use. The Committee also amended sub-section 5.2.6 to read:

"shall be handled and stored".

Section 6 - Labelling

53. Following a proposal made by the delegation of the U.S.A. the Committee agreed that gelling agents would need to be specifically named in sub-section 6.1.1 and subsequently deleted the words "gelling agent applying to" from the Standard (see also para 31 of this Report). The Committee also agreed to a proposal made by the delegation of Denmark to reword in sub-section 6.1.2 the declaration of flavouring or seasoning so as to read: "a declaration of any addition which has imparted some particular organoleptic characteristic, e.g. "with X", when appropriate". It was understood that such a declaration would cover added smoke agents.

54. The delegation of the U.S.A. was of the opinion that the term "proportion" in the "Declaration of Ingredients" was not sufficiently clear and proposed the term of "predominance". Several delegations pointed out that the sentence was taken directly from the Recommended International General Standard for the Labelling of Prepackaged Foods. Other delegations were in favour of giving more detailed

instructions. Finally the Committee agreed to change the term "proportion" into "quantity by weight m/m".

55. Regarding the declaration of water, several delegations emphasized the fact that water was not actually added as such to the product and that the technological process consisted of an addition of brine, i.e. water plus salt (sodium chloride) and sodium or potassium nitrite, as provided for in section 3.1 (see also para 39 of this Report). Other delegations, referring to their national legislations, were in favour of a separate declaration of water, salt and nitrite. The Committee finally agreed to the deletion of the words "except that water need not be declared" and that water should be declared either as a separate component, or in the composition of brine. The delegation of the United Kingdom explained that their legislation did not require water to be declared.

56. In its written comments, the delegation of Denmark had proposed a declaration of certain ingredients and food additives by class titles. As regards sugars, which had now been named specifically, the Committee decided to list them individually (see para 40 of this Report). The representative of IOCU, supported by the representative of WHO, pointed out that consumers had certain rights to know the names of the ingredients contained in the food. The Committee recognized that the problem of listing by class titles had to be referred to the Codex Committee on Food Labelling, in the case of class titles not named in the Recommended International General Standard for the Labelling of Prepackaged Foods. It agreed that only "seasonings", "condiments" and "phosphates" should be proposed to this Committee for adoption as class titles. It also agreed that salt, which was an important ingredient, would not go into the class of condiments, but would be specifically named, as well as nitrites and nitrates. It further agreed that other additives such as agar, alginates, natural and synthetic flavourings, ascorbic acid etc. would be listed under their specific names.

57. The delegation of Argentina, supported by the representative of IOCU proposed to make the declaration of the country of origin mandatory in clear. The Committee agreed to this proposal and decided to delete from sub-section 6.5.1 the words "if its omission would mislead or deceive the consumer".

58. Regarding sub-section 6.5.2 the Committee recognized that this provision would apply where the nature of the product was actually changed. In its opinion this was not the case when the product was e.g. sliced, but as the Standard was being retained at Step 6, there was opportunity to seek comments before the next meeting.

59. The Committee had before it a proposal made by the delegation of the Federal Republic of Germany to introduce, under alternative forms, the principle of a date of manufacture or an expiry date in section 6.6. The Committee was informed by the Secretariat that the Codex Committee on Food Labelling would discuss the whole problem of date marking at its next Session (June 1972). The Committee agreed to postpone discussing this subject pending guidance to be given by the Committee on Labelling in this respect.

the declaration of

60. Regarding/the country of origin on the container, several delegations were in favour of an impression in clear rather than in code. Other delegations objected to this proposal. The representative of ISO mentioned a list of abbreviations of names of countries which had been developed by this Organization in 1959 (document ISO/R 90-1959). The Committee agreed that a system of standard abbreviations could solve the problem and accepted the ISO list in principle, with the understanding that it had to be

updated, especially with regard to the member countries of the Codex Alimentarius Commission. The delegation of Argentina declared that it objected in principle to any impression not in clear.

Status of the Draft Standard

61. The Committee agreed that in view of the extensive amendments made and also with regard to the point on which it wished to seek advice from the FAO Legal Office, it should return the Standard on Cooked Cured Hams to Step 6 of the Procedure.

The amended version of the Standard is attached as Appendix II to this Report.

Draft Standard for Canned Pork Shoulder at Step 7

62. The Committee had before it the above named Draft Standard (Appendix IV to ALINORM 71/16) and Government comments on the above Standard (CX/PMP 72/8). In general, comments already made for canned hams were also applicable to this Standard. The Committee decided therefore to amend the Standard mutatis mutandis, with regard to the decisions already made on the Draft Standard for Cooked Cured Hams.

63. Regarding Section 6.1 The Name of the Food, there was a proposal made by the delegations of the U.S.A. and Canada to permit the designation "picnic" currently in use in these countries. The Committee considered that such a designation was already covered by Section 3.1 of the Recommended International General Standard for the Labelling of Prepackaged Foods (Ref. CAC/RS 1-1969), which authorized fancy names where they were not misleading.

Status of the Draft Standard

64. The Committee agreed that the decision made for the Draft Standard for Cooked Cured Hams to maintain it at Step 6 as well as the procedure to be followed would also apply to the Draft Standard on Cooked Cured Pork Shoulder.

The amended version of the Standard is attached as Appendix III to this Report.

Proposal for three Categories of Canned Chopped and Comminuted Meat Products

65. The delegation of the Netherlands introduced a paper with the above title (CX/PMP 72/9) Which it had prepared for the present Session of the Committee. The delegation was of the opinion that the differences between the Draft Standards for Canned Luncheon Meat and Canned Chopped Meat, which were before the Committee at Step 7, differed only slightly from each other. The Netherlands delegation stated that in its opinion not all meat products of the type under discussion and internationally traded could be covered under the two designations.

66. The delegation of the Netherlands pointed out that instead of a lean meat figure it proposed to make use of a minimum protein value in order to overcome the difficulty of establishing a correlation factor between meat protein % and the lean meat quantity. Further there was a simple working relationship between ingoing meat and meat protein, namely ingoing meat content = 5 X meat protein % + fat %.

67. The basic proposal for differentiation between Luncheon Meat and Chopped Meat consisted of:

- a. a minimum proportion of readily recognizable pieces of meat, and
- b. the "absence" of protein binders in Chopped Meat;

- c. the "absence" of edible offals in Chopped Meat without cereals;
- d. a maximum of 3% carbohydrate binders in Chopped Meat with cereal, and
- e. provision for some edible offals in Chopped Meat with cereals.

68. In order to allow for Luncheon Meat type products with a lower meat content a new proposal had been drafted for a product named Meat Loaf, which would have a lower limit for the minimum protein content and also a lower maximum fat percentage than Luncheon Meat. The delegation of the Netherlands had subsequently prepared three new proposals of Draft Standards for: Canned Luncheon Meat, Canned Chopped Meat and Canned Meat Loaf.

69. Some delegations pointed out that, as there was provision for two types of products, namely with or without carbohydrate binders in each of the three new Proposed Standards, the number of Standards which would be elaborated would actually be more than three. The Committee was of the opinion that the proposals made by the delegation of the Netherlands constituted an excellent preparatory work but that this new concept had to be carefully examined before entering into discussions about which products would fall into which category.

70. The representative of UNICE supported by the delegation of France pointed out that they objected to a possible requirement for speciality canned, chopped and/or comminuted meat products to be labelled "Luncheon Meat" or "Chopped Meat". French "pâté de campagne" was quoted as an example. Since the Scope and Description Sections as drafted in the Netherlands proposal as well as in other Standards under consideration also seemed to cover various speciality products presently marketed in different countries under traditional names (e.g. Pâté de Campagne) which differed from those provided for in the proposed Standards, the delegation of France proposed and the Committee agreed to seek advice from the Legal Office of FAO concerning the possible necessity to declare in addition to the traditional name, the name of the food as given in the Standard.

It was pointed out that at the request of the Commission, the Executive Committee would deal with a related issue, the question of application of "appellation d'origine".

71. The Committee agreed that canned chopped and comminuted meat products should be covered by at least three Standards, with the understanding that each of them could provide for two different categories of products, e.g. with or without carbohydrate binders. The Committee decided that Governments should be requested to comment on the working paper prepared by the delegation of the Netherlands, together with the advice from the FAO Legal Office regarding speciality products, as soon as this became available. At the request of the Committee, the delegation of the Netherlands agreed to prepare, for the Seventh Session of the Committee, in collaboration with the delegations of Denmark, the United Kingdom and the U.S.A., a new working paper on the basis of Government comments and further taking into account the paper prepared by the Danish Secretariat "Summary of Information concerning existing categories of canned chopped and/or comminuted meat products" (document CX/PMP 72/9A). Depending upon the answer to be given by the Legal Office, the delegations of countries producing speciality products as referred to in para 70 agreed that they would or would not participate in the elaboration of this paper. It was decided that the paper would contain revised proposals for Standards for Canned Chopped and Comminuted Meat Products

at Step 2 of the Procedure and that these proposals might replace the Draft Standards for Luncheon Meat and for Chopped Meat.

Consideration of Draft Standard for Canned Corned Beef at Step 7

72. The Committee considered the above Draft Standard (ALINORM 71/16, Appendix VI) at Step 7 in the light of Government comments contained in document CX/PMP 72/12. The following were the main points which emerged from the Committee's discussions.

73. The Committee recognized that certain products which were not in compliance with the Standard were also known as corned beef in some parts of the world, but mainly in Europe where they were formulated in accordance with national preference. The delegation of the Federal Republic of Germany proposed that the Scope Section of the Standard be limited to traditional South American products. It further proposed that products manufactured and known as corned beef in Europe should, nevertheless, be allowed to retain this labelling in conjunction with a geographical designation such as German corned beef, French corned beef etc. Several delegations pointed out that such a description could mislead the consumer. The Committee also recognized that there were on the market several products made of corned beef mixed with cereals or broth. After discussion, the Committee agreed that the Standard would apply to the traditional South American product known as canned corned beef only and decided not to change the Scope Section of the Standard. It also recognized that other products known as corned beef and having some similarity were of importance in international trade and that a Standard for such products might possibly have to be developed at a later stage. The Committee recognized that such designations as "Corned beef loaf" or "Corned beef with cereals" were already in use in international trade. It also agreed that such products, which were not covered by the Standard, would not be prevented from keeping the term "corned beef" as a part of their designation. Such designations could be "corned beef with broth", or "corned beef with cereals", or other similar designations provided that they did not mislead the consumer.

74. The delegation of Denmark pointed out that the attention of the FAO Legal Office should be drawn to the question of designations for corned beef products not included in the Standard as another example of the questions raised in paras 31 and 70.

75. The Committee amended the text, mutatis mutandis, in accordance with the decisions taken on the Draft Standard for Cooked Cured Hams.

Section 2 - Description

76. The delegations of the U.S.A. stressed the point that tendons should not be considered as meat per se. The Committee agreed that, where some tendons were attached to carcass meat, their removal and comminution constituted a minor process variation and that the phrase "finely comminuted tendons" could be deleted.

77. The delegation of Argentina proposed to replace the maximum of 5% raw beef provided for in the Standard by a "small quantity" of this product. The Committee did not agree with this proposal.

78. The Committee agreed to a proposal made by the delegation of the U.S.A. to include, after "5% raw beef has been added", the phrase: "the resulting product representing not more than 70% m/m of the raw meat prior to cooking".

79. The Committee agreed that the French text would read "avant ou après la mise en boîte" instead of "le conditionnement".

Section 3 — Essential Composition and Quality Factors

80. The delegation of the Federal Republic of Germany proposed to reduce the total fat content of the final product to 15% m/m. The representative of UNICE pointed out that the figure of 20% was intended to cover corned beef of the European type but, as it had been decided that these products would not be covered by the Standard, the figure of 15% as it appeared in the original text, amended at the last Session, should be reintroduced. The representative of IOCU was also in favour of reducing the fat content. The Committee, however, decided to leave the figure for fat content unchanged.

Section 4 — Food Additives

81. The Committee considered a proposal made by the delegation of Argentina to reduce the nitrate and nitrite content of the final product. The Committee was informed that studies were being developed on the minimum level of nitrite needed to prevent growth of Clostridium botulinum in relation with salt concentration and heat treatment. The Committee recognized that the provisions for these food additives had been endorsed only temporarily and decided to retain the figures and review these when scientific information became available, in accordance with a decision taken previously and recorded in para 46 of this Report.

82. The Committee agreed to provide for the use of ascorbic acid and its sodium salt, and to limit its use to 500 ppm in line with the other standards. The Committee was informed that this provision had previously been endorsed by the Codex Committee on Food Additives.

Section 5 -Hygiene

83. In discussing a proposal to provide for an incubation test in the Hygiene Section of the Standard, the Committee agreed that this subject was related to the Sampling Plans being elaborated by the International Commission on Microbiological Specifications for Foods (ICMSF) and decided not to include any provision on this matter at this stage. The delegation of Argentina reiterated its proposal that it be required that the whole production of canned corned beef be subjected to incubation. The Committee did not endorse this.

Section 6 - Labelling

84. The Committee deleted reference to declaration of water in the Labelling Section of the Standard.

Status of the Draft Standard

85. The Committee agreed to advance the Draft Standard for Canned Corned Beef to Step 8 for submission to the Commission at its next Session.

The revised Standard is attached as Appendix IV to this Report.

Methods of Analysis to be inserted in the Standards

86. The Committee was informed by the representative of ISO that methods for the determination of the nitrate and nitrite contents in meat and meat products were finalized by ISO/TC 34 and would be available as draft recommended methods in 1973. The ISO method DR 2254 for determination of phosphate content in meat and meat products had been sent to ISO members for acceptance. The Committee agreed that it would consider the adoption of these methods when they were finalized.

87. The Committee agreed to propose the ISO method R 1443 "Determination of total fat content" in meat and meat products for endorsement by the Codex Committee on Methods of Analysis and Sampling. It also agreed to propose the ISO method R 937: "Determination of nitrogen content" in meat and meat products for endorsement. Regarding this method the Committee noted that the nitrate and nitrite content of the products should be taken into consideration (see ISO method R 937, para 9. Notes on Procedure) in the calculation of protein nitrogen.

Consideration of Code of Hygienic Practice for Processed Meat Products at Step 4

88. The Committee considered the above named Code (ALINORM 71/15, Appendix II) in the light of Government comments (document CX/PMP 72/14) and a paper prepared by the Danish Secretariat and distributed during the meeting which contained an extract of the amendments made in the Code of Hygienic Practice for Fresh Meat during the First Session of the Codex Committee on Meat Hygiene (10-14 April 1972).

Section I - Scope

89. Regarding the Scope Section the delegation of the Federal Republic of Germany proposed to add a descriptive clause and the Committee agreed to this addition.

Section II - Definitions

90. The Committee decided to include in the Code the following definitions from the revised Fresh Meat Code: abattoir, brand, cleaning, contamination, controlling authority, disinfection, edible offal, fresh meat, manager and protective clothing.

91. Instead of the definition "Fit for human consumption", which appeared in the Code for Fresh Meat, the Committee agreed to retain the negative provision "Unfit for human consumption" as it was thought that the main hygienic problems would be associated with the unfit products.

92. The Committee agreed to amend such definitions common to both Codes to be in harmony with the text of the Fresh Meat Code, The Committee agreed to adopt, for the time being, the definition of "meat" agreed to in the Code of Hygienic Practice for Fresh Meat. The delegations of Argentina, Brazil, Canada and the U.S.A. expressed the view that they were not in agreement with this definition.

93. Concerning the definitions appearing only in the Code for Processed Meat Products, the Committee agreed

- (i) to amend the definition of "container" taking into account the results of the discussions on the matter when considering the Standard for Cooked Cured Ham;
- (ii) to delete the definition "Inedible";
- (iii) to delete in the definition "Ingredient" the reference to food additives or processing aids as these were considered to be covered by the term "substances".

Section III - Ingredient Requirements

94. The Committee decided to state that all meat used should conform with the requirements of the Code of Hygienic Practice for Fresh Meat and the Code of Ante-Mortem and Post-Mortem Inspection which were being elaborated by the Codex Committee on Meat Hygiene.

Section IV - Establishment Facilities and Operating Requirements

95 Regarding the remainder of the Code, the Committee found that the task of considering at the same time the substance of the Processed Meat Products Code and the harmonization with the Fresh Meat Code as revised at the first meeting of the Committee on Meat Hygiene during the previous week was not feasible without a document containing the relevant parts of the two Codes side by side. It was therefore decided to consider only the text of the Processed Meat Products Code at this Session and a few amendments were made in sub-section IV.A.1 (d) (corresponding to IV.A.2(j) of Appendix V (attached)) and in sub-section IV.A.2(a) (corresponding to IV.A.4(a) of Appendix V (attached)).

96. The representative of ISO proposed that the following finalized ISO methods for bacteriological analysis be accepted as Recommended Methods in Section IV.F - Laboratory Procedures:

Laboratory Control Procedures

1. Recommended method: Aerobic count at 30 C. Meat and Meat Products ISO Draft International Standard DR 2253
2. Recommended method: Detection of Salmonellae ISO Draft proposal being prepared as Draft International Standard
3. Recommended method: Counting of presumptive coli form bacteria and Escherichia coli ISO Draft proposal being prepared as Draft International Standard

97. It was pointed out that the subject of microbiological analysis was being studied by ICMSF and that any action on this matter should await the outcome of these studies.

ANNEX A - Preservation of Canned Meat Products

98. The Committee agreed to revise the Annex in the light of written comments from the United Kingdom. In the Annex reference is made to meat products packaged in "hermetically sealed" containers. The Committee decided that the revised Annex would provide for products packed in rigid containers and also agreed that a second annex to cover products packaged otherwise might be elaborated.

99. The Danish delegation was requested to provide for the next Session of the Committee further information concerning aseptic canning techniques.

Harmonization with Code of Hygienic Practice for Fresh Meat

100. With respect to the question of harmonization with the Fresh Meat Code, the Committee decided to ask the Secretariat in consultation with Dr. A. Ginsberg (New Zealand) and

Dr. K. Gerigk (Federal Republic of Germany) to bring the text of the Processed Meat Products Code in line with the revised text of the Fresh Meat Code where applicable and to include those parts of the Fresh Meat Code which might be relevant to the Processed Meat Products Code. This document would then enable Governments to comment on the Code in the light of harmonization with the Fresh Meat Code.

Status of the Code

101. The Committee decided to retain the Code at Step 3 of the Procedure, taking into account the large number of amendments made.

The revised Code is attached as Appendix V to the Report.

Consideration of Proposed Draft Standards for Canned Corned Mutton and Canned Meat and Vegetables

102. At the suggestion of the delegation of Australia the Committee had agreed at its Fifth Session that it would consider elaborating Standards for the above named products. The delegation of Australia which had offered to prepare a background paper for the Committee had not found it possible to complete this in time for the Session. The Committee agreed to a proposal made by the delegation of Australia to place these items on the agenda of a future Session.

Future Work and other Business

103. The Committee agreed that its current commitments prevented it from undertaking new work at present.

Date and Place of next Session

104. The Committee was informed that the Codex Alimentarius Commission had scheduled the date for the 7th Session of this Committee to be held in October 1973. The Committee agreed that this date might be revised in the light of the progress of work to be done between the 6th and the 7th Session.

French Version of the Draft Report

105. The Committee noted that, for practical reasons, it had not been found possible to have the entirety of the Report and Appendices reviewed, as to accuracy of the translation from English, by the French rapporteur. The Committee was informed that the parts of the Report which had not been so reviewed by the rapporteur would be reviewed by FAO translators before issue in its final form.

Summary Status of Work (Please see page 11)

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SUMMARY STATUS OF WORK

CODE / STANDARD	STEP	DOCUMENT ALINORM - APP.
Code of Hygienic Practice for Processed Meat Products	3 (returned)	72/16 - V
Draft Standard for Canned Corned Beef	8	72/16 - IV
Draft Standard for Cooked Cured Hams	6 (returned)	72/16 - II
Draft Standard for Cooked Cured Pork Shoulder	6 (returned)	72/16 - III
Proposed Draft Standards for Canned Chopped and Comminuted Meat Products	to be elaborated	CX/PMP 73/3 **

** See para. 71 of the Report; document to be issued in due time.

DRAFT STANDARD FOR COOKED CURED HAMS (Returned to Step 6 of the Procedure for further Government Comments)

1. SCOPE

The provisions of this standard apply to hams in hermetically sealed containers which have been heat-treated after sealing, or, where aseptic packaging techniques are employed, before sealing.

2. DESCRIPTION

The product shall be made of meat from the hind leg of a pig - divided transversely from the remainder of the side at a point not further anteriorly than the end of the hip—bone — excluding comminuted or chopped meat. All bones and detached cartilage, tendons and ligaments shall be removed. Skin and fat may or may not be removed. The meat shall be cured and may be smoked, spiced and/or flavoured. The heat treatment known as cooking and the type of cure and packaging shall be sufficient to ensure that the product remains wholesome under normal conditions of storage and sale.

Subsidiary definitions

"Cooked" means any heat treatment which in combination with the curing shall be sufficient to ensure that the product will withstand spoilage and present no public health hazard under normal conditions of storage, transport and sale.

"Hermetically sealed container" means a container which is completely sealed, and impermeable and which is made of any appropriate material which is suitable for the product covered by the standard.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Essential Ingredients

- uncured ham
- brine consisting of water and salt (sodium chloride) and sodium or potassium nitrite.

3.2 Optional Ingredients

- saccharose (sucrose), invert sugar, dextrose (glucose), lactose, maltose, glucose syrup (including corn syrup)
- honey
- gelatine
- hydrolyzed protein used as flavour enhancer
- spices, seasonings and condiments
- any food likely to impart to the ham some organoleptic characteristics

3.3 Essential Quality Factors

3.3.1 Raw material

The meat from which the product is prepared shall be free from objectionable odours and flavours.

3.3.2 Final product

The meat shall be clean and substantially free from staining and contamination from the container.

The meat shall be uniformly and thoroughly cured and capable of being sliced.

3.4 Meat Content

[Minimum arithmetic mean for % protein on fat-free basis	17.3%
Absolute minimum for % protein on fat-free basis	15.3%]

4. FOOD ADDITIVES

The following provisions in respect of food additives and their specifications, as contained in section of the Codex Alimentarius, are subject to endorsement, have been endorsed or temporarily endorsed by the Codex Committee on Food Additives, as indicated below:

<u>Additive</u>	<u>Maximum level calculated on the total net content of the final product</u>	<u>Status</u>
Agar	Limited by good manufacturing practice (GMP)	Endorsed
Alginates, potassium and/or sodium salts	Limited by GMP	Endorsed
Carrageenan	Limited by GMP	Endorsed
Ascorbic acid, iso-ascorbic acid and their sodium salts	500 mg/kg (expressed as ascorbic acid) singly or in combination	Endorsed
Natural flavourings and their identical synthetic equivalents, except those which are known to represent a toxic hazard	Limited by GMP	Subject to endorsement
Natural smoke agents and their extracts and their identical synthetic equivalents, except	Limited by GMP	Subject to endorsement

those which are known to represent a toxic hazard

Citrate, sodium salt	Limited by GMP	Endorsed
Guanylic acid, sodium salt	500 mg/kg expressed as guanylic acid	Not endorsed, pending tox. evaluation
Inosinic acid, sodium salt	500 mg/kg expressed as inosinic acid	Not endorsed, pending tox. evaluation
Monosodium glutamate	2000 mg/kg expressed as glutamic acid	Subject to endorsement
Nitrate, potassium and/or sodium salts	500 mg/kg expressed as sodium nitrate	Temporarily endorsed
Nitrite, potassium and/or sodium salts	200 mg/kg total nitrite expressed as sodium nitrite	Temporarily endorsed
Added phosphates (mono-, di- and, poly-sodium and potassium salts)	3000 mg/kg (expressed as P2 O5) singly or in combination	Endorsed

5. HYGIENE

- 5.1 It is recommended that the Code of Hygienic Practice for Processed Meat Products of the Codex Alimentarius Commission (subject to finalization) should apply. (See Appendix V to this Report.)
- 5.2 No meat or meat products shall be accepted by an establishment unless the meat or meat products have been derived from animals subjected to ante-mortem and post-mortem inspection. They shall not be accepted unless they are properly branded or marked and in all ways suitable for human consumption and that they have not, subsequent to being examined by an Inspector, been exposed to contamination, or processed or handled or subjected to the addition of any harmful substance which renders them unfit for human consumption. 1/ (IV.D.4I(a))
- 1/ These provisions have been taken from the Draft Code of Hygienic Practice for Processed Meat Products (Appendix V to this Report).
- 5.3 Meat and meat products shall be handled, stored or transported in an establishment in a manner that will protect the meat and meat products from contamination and deterioration. 1/ (IV.D.4I(b))
- 5.4 The product shall be packaged in hermetically sealed containers manufactured of materials which do not permit contamination under normal conditions of handling. The containers shall be clean and show the characteristics of sound containers and, where applicable to the type of container, shall show visible vacuum. 2/
- 5.5 When processed containers are cooled in water, the water shall be of potable quality or suitably treated so as not to constitute a public health hazard. If cooling water is re-circulated, it shall be filtered and effectively disinfected by chlorine or otherwise, before use or each re-use. 2/
- 5.6 After processing, containers shall be handled and stored in such a manner as to avoid contamination of the product. 2/

6. LABELLING

In addition to sections 1, 2, 4 and 6 of the Recommended International General Standard for the Labelling of Prepackaged Foods (Ref. Wo. CAC/RS 1-1969), the following specific provisions apply (subject to endorsement by the Codex Committee on Food Labelling):

6.1 The Name of the Food

6.1.1 The name of the product shall include the designation:

- "ham" or "ham with skin",
- "ham in/with natural juice" or "ham with skin in/with natural juice",
- "ham in/with natural juice, gelatine added" or "ham with skin in/with natural juice, gelatine added" or "added X" applying to agar, alginates or carrageenan, as appropriate.

6.1.2 The following shall appear on the label so as to be simultaneously visible with the name of the product:

- a declaration of any addition which has imparted some particular organoleptic characteristic, e.g. "with X", when appropriate ;
- when the ham has been smoked, this shall be declared on the label;
- a declaration that accurately describes any method of preparation or processing may be given and shall be given when its omission would mislead the consumer.

6.2 List of Ingredients

A complete list of ingredients shall be declared on the label in descending order of quantity by weight m/m, in accordance with sub-section 3.2(c) of the Recommended International General Standard for the Labelling of Prepackaged Foods, except that specific names shall be used for ascorbic acid, isoascorbic acid and their sodium salts, nitrate (potassium and sodium), and nitrite (potassium and sodium).

6.3 Net Contents

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

6.4 Name and Address

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

6.5 Country of Origin

6.5.1 The country of origin of the product shall be declared.

1/ These provisions have been taken from the Draft Code of Hygienic Practice for Processed Meat Products (Appendix V to this Report).

2/ To be endorsed by the Codex Committee on Food Hygiene.

6.5.2 When the product undergoes processing in a second country which changes its nature, the country in which the processing is performed shall be considered to be the country of origin for the purpose of labelling.

6.6 Additional Provisions

6.6.1 Storage instructions

For hams which are not fully shelf—stable, i.e. which may be expected not to keep for at least one year in normal conditions of storage and sale, adequate storage instructions shall be given on the label. These instructions shall state the recommended maximum permissible temperature or conditions of storage and, in the case of containers sold to the consumer, an indication of the recommended maximum period of storage in specified conditions.

6.6.2 Impression of establishment number and country of origin on the container.

The establishment number and the country of origin shall be shown on the container in an indelible manner. The country of origin may be shown in code or in clear.

6.6.3 Impression of date of manufacture on the container.

The date of manufacture shall be shown on the container in code.

7. METHODS OF ANALYSIS AND SAMPLING

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

7.1 Protein

Recommended method: "Determination of Nitrogen Content" of Meat and Meat Products, ISO Recommendation R. 937.

7.2 Fat

Recommended method: "Determination of Total Fat Content" of Meat and Meat Products, ISO Recommendation R. 1443.

APPENDIX III

DRAFT STANDARD FOR COOKED CURED PORK SHOULDER

(Returned to Step 6 of the Procedure for further Government Comments)

1. SCOPE

The provisions of this standard apply to pork shoulder in hermetically sealed containers which have been heat-treated after sealing, or, where aseptic packaging techniques are employed, before sealing.

2. DESCRIPTION

The product shall be made of meat from the shoulder of a pig, excluding comminuted or chopped meat. All bones and detached cartilage, tendons and ligaments shall be removed. Skin and fat may or may not be removed. The meat shall be cured and may be smoked, spiced and/or flavoured. The heat treatment known as cooking and the type of cure and packaging shall be sufficient to ensure that the product remains wholesome under normal conditions of storage and sale.

Subsidiary definitions

"Cooked" means any heat treatment which in combination with the curing shall be sufficient to ensure that the product will withstand spoilage and present no public health hazard under normal conditions of storage, transport and sale.

"Hermetically sealed container" means a container which is completely sealed, and impermeable and which is made of any appropriate material which is suitable for the product covered by the standard.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Essential Ingredients

- uncured pork shoulder
- brine consisting of water and salt (sodium chloride) and sodium or potassium nitrite

3.2 Optional Ingredients

- saccharose (sucrose), invert sugar, dextrose (glucose), lactose, maltose, glucose syrup (including corn syrup)
- honey
- gelatine
- hydrolyzed protein used as flavour enhancer
- spices, seasonings and condiments
- any food likely to impart to the pork shoulder some organoleptic characteristics

3.3 Essential Quality Factors 3.3.1 Raw material

The meat from which the product is prepared shall be free from objectionable odours and flavours.

3.3.2 Final product

The meat shall be clean and substantially free from staining and contamination from the container.

The meat shall be uniformly and thoroughly cured and capable of being sliced.

3.4 Meat Content

[Minimum arithmetic mean for % protein on fat-free basis	16.6%
Absolute minimum for % protein on fat-free basis	14.6%]

4. FOOD ADDITIVES

The following provisions in respect of food additives and their specifications, as contained in section ... of the Codex Alimentarius, are subject to endorsement, have been endorsed or temporarily endorsed by the Codex Committee on Food Additives, as indicated below:

Additive	Maximum level calculated on the total net content of the final product	Status
Agar	Limited by good manufacturing practice (GMP)	Endorsed

Alginates, potassium and/or sodium salts	Limited by GMP	Endorsed
Carrageenan	Limited by GMP	Endorsed
Ascorbic acid, iso-ascorbic acid and their sodium salts	500 rag/kg (expressed as ascorbic acid) singly or in combination	Endorsed
Natural flavourings and their identical synthetic equivalents, except those which are known to represent a toxic hazard	Limited by GMP	Subject to endorsement
Additive	Maximum level calculated on the total net content of the final product	Status
Natural smoke agents and their extracts and their identical synthetic equivalents, except those which are known to represent a toxic hazard	Limited by GMP	Subject to endorsement
Citrate, sodium salt	Limited by GMP	Endorsed
Guanylic acid, sodium salt	500 mg/kg expressed as guanylic acid	Not endorsed, pending tox. evaluation
Inosinic acid, sodium salt	500 mg/kg expressed as inosinic acid	Not endorsed, pending tox. evaluation
Monosodium glutamate	2000 mg/kg expressed as glutamic acid	Subject to endorsement
Nitrate, potassium and/or sodium salts	500 mg/kg expressed as sodium nitrate	Temporarily endorsed
Nitrite, potassium and/or sodium salts	200 mg/kg total nitrite expressed as sodium nitrite	Temporarily endorsed
Added phosphates (mono-, di— and poly-) sodium and potassium salts	3000 mg/kg (expressed as P ₂ O ₅) singly or in combination	Endorsed

5. HYGIENE

- 5.1 It is recommended that the Code of Hygienic Practice for Processed Meat Products of the Codex Alimentarius Commission (subject to finalization) should apply (see Appendix V to this Report).
- 5.2 No meat or meat products shall be accepted by an establishment unless the meat or meat products have been derived from animals subjected to ante-mortem and postmortem inspection. They shall not be accepted unless they are

properly branded or marked and in all ways suitable for human consumption and that they have not, subsequent to being examined by an Inspector, been exposed to contamination, or processed or handled or subjected to the addition of any harmful substance which renders them unfit for human consumption. 1/ (IV.D.41(a))

- 5.3 Meat and meat products shall be handled, stored and transported in an establishment in a manner that will protect the meat and meat products from contamination and deterioration.

1/ (IV.D.41(b))

- 5.4 The product shall be packaged in hermetically sealed containers manufactured of materials which do not permit contamination under normal conditions of handling. The containers shall be clean and show the characteristics of sound containers and, where applicable to the type of container, shall show visible vacuum. 2/

1/ These provisions have been taken from the Draft Code of Hygienic Practice for Processed Meat Products (Appendix V to this Report).

2/ To be endorsed by the Codex Committee on Food Hygiene.

- 5.5 When processed containers are cooled in water, the water shall be of potable quality or suitably treated so as not to constitute a public health hazard. If cooling water is re-circulated, it shall be filtered and effectively disinfected by chlorine or otherwise, before use or each re-use. 1/

- 5.6 After processing, containers shall be handled and stored in such a manner as to avoid contamination of the product. 1/

6. LABELLING

In addition to sections 1, 2, 4 and 6 of the Recommended International General Standard for the Labelling of Prepackaged Foods (Ref. No. CAC/RS 1-1969), the following specific provisions apply (subject to endorsement by the Codex Committee on Food Labelling):

6.1 The Name of the Food

- 6.1.1 The name of the product shall include the designation:

- "pork shoulder" or "pork shoulder with skin",
- "pork shoulder in/with natural juice" or "pork shoulder with skin in/with natural juice",
- "pork shoulder in/with natural juice, gelatine added" or "pork shoulder with skin

in/with natural juice, gelatine added" or "added X applying to agar, alginates or carrageenan, as appropriate.

- 6.1.2 The following shall appear on the label so as to be simultaneously visible with the name of the product:

- "a declaration of any addition which has imparted some particular organoleptic characteristic, e.g. "with X", when appropriate";
- when the pork shoulder has been smoked, this shall be declared on the label;

- a declaration that accurately describes any method of preparation or processing may be given and shall be given when its omission would mislead the consumer.

6.2 List of Ingredients

A complete list of ingredients shall be declared on the label in descending order of quantity by weight m/m, in accordance with sub-section 3.2 (c) of the Recommended International General Standard for the Labelling of Prepackaged Foods, except that specific names shall be used for ascorbic acid, isoascorbic acid and their sodium salts, nitrate (potassium and sodium), and nitrite (potassium and sodium).

6.3 Net Contents

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

6.4 Name and Address

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

6.5 Country of Origin

6.5.1 The country of origin of the product shall be declared.

6.5.2 When the product undergoes processing in a second country which changes its nature, the country in which the processing is performed shall be considered to be the country of origin for the purpose of labelling.

6.6 Additional Provisions

6.6.1 Storage instructions

For pork shoulders which are not fully shelf-stable, i.e. which may be expected not to keep for at least one year in normal conditions of storage and sale, adequate storage instructions shall be given on the label. These instructions shall state the recommended maximum permissible temperature or conditions of storage and, in the case of containers sold to the consumer, an indication of the recommended maximum period of storage in specified conditions.

1/ To be endorsed by the Codex Committee on Food Hygiene.

6.6.2 Impression of establishment number and country of origin on the container

The establishment number and the country of origin shall be shown on the container in an indelible manner. The country of origin may be shown in code or in clear.

6.6.3 Impression of date of manufacture . on the container

The date of manufacture shall be shown on the container in code.

7. METHODS OF ANALYSIS AND SAMPLING

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

7.1 Protein

Recommended method: "Determination of Nitrogen Content" of Meat and Meat Products, ISO Recommendation R. 937.

7.2 Fat

Recommended method: "Determination of Total Fat Content" of Meat and Meat Products, ISO Recommendation R. 1443.

APPENDIX IV

DRAFT STANDARD FOR CANNED CORNED BEEF

(Advanced to Step 8 of the Procedure)

1. SCOPE

The provisions of this standard apply to canned corned beef in hermetically sealed containers which have been heat treated after sealing.

2. DESCRIPTION

Corned beef is chopped, cured, boneless carcass meat from animals of bovine species and may include head meat, heart meat, and skirt meat.

The product shall be prepared from coarsely cut beef which has been precooked or a mixture of such precooked beef to which a maximum of 5% raw beef has been added, the resulting product representing not more than 70% by weight of the raw meat prior to cooking, and, in either case, the meat shall be cured before or after filling into the container.

The heat treatment shall be applied after the container is sealed and shall be sufficient to ensure that the product is shelf-stable.

Subsidiary definition

Hermetically sealed container means a container which is completely sealed, rigid and impermeable and which is made of any appropriate material which is suitable for the product covered by the standard.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Ingredients

- uncured beef
- curing ingredients consisting of salt (sodium chloride), sodium or potassium nitrate, sodium or potassium nitrite and saccharose (sucrose), invert sugar, dextrose (glucose), lactose, maltose or glucose syrup (including corn syrup).

3.2 Composition

Total fat content in the final product shall not exceed 20% m/m.

3.3 Essential Quality Factors

3.3.1 Raw material

The meat from which the product is prepared shall be free from objectionable odours and flavours.

3.3.2 Final product

The product shall be clean and substantially free from staining from the container. The meat shall be uniformly and thoroughly cured and capable of being sliced.

4. FOOD ADDITIVES

The following provisions in respect of food additives and their specifications as contained in section ... of the Codex Alimentarius are subject to endorsement or have been temporarily endorsed by the Codex Committee on Food Additives, as indicated below:

<u>Additive</u>	<u>Maximum level calculated on the total net content of the final product</u>	<u>Status</u>
Nitrate, potassium and/or sodium salts	500 mg/kg expressed as sodium nitrate	Temporarily endorsed
Nitrite, potassium and/or sodium salts	200 mg/kg total nitrite expressed as sodium nitrite	Temporarily endorsed
Ascorbic acid and its sodium salt	500 mg/kg expressed as ascorbic acid	To be endorsed

5. HYGIENE

- 5.1 It is recommended that the Code of Hygienic Practice for Processed Meat Products of the Codex Alimentarius Commission (subject to finalization) should apply (see Appendix V to this Report).
- 5.2 No meat or meat products shall be accepted by an establishment unless the meat or meat products have been derived from animals subjected to ante-mortem and post-mortem inspection. They shall not be accepted unless they are properly branded or marked and in all ways suitable for human consumption and that they have not, subsequent to being examined by an Inspector, been exposed to contamination or processed or handled or subjected to the addition of any harmful substance which renders them unfit for human consumption. 1/ (IV.D. 41 (a))
- 5.3 Meat and meat products shall be handled, stored and transported in an establishment in a manner that will protect the meat and meat products from contamination and deterioration. 1/ (IV.D.41(b))
- 5.4 The product shall be packaged in hermetically sealed containers which do not permit contamination and which shall be clean and show the characteristics of sound containers and shall show visible vacuum. 2/
- 5.5 When processed containers are cooled in water, the water shall be of potable quality or suitably treated so as not to constitute a public health hazard. If cooling water is re-circulated, it shall be filtered and effectively disinfected by chlorine or otherwise, before use or each re-use. 2/

1/ These provisions have been taken from the Draft Code of Hygienic Practice for Processed Meat Products (Appendix V to this Report).

2/ These provisions are to be endorsed by the Codex Committee on Food Hygiene.

5.6 After processing, containers shall be handled in such a manner as to avoid contamination of the product. 1/

6. LABELLING

In addition to sections 1, 2, 4 and 6 of the Recommended International General Standard for the Labelling of Prepackaged Foods (Ref. No. CAC/RS 1-1969), the following specific provisions apply (subject to endorsement by the Codex Committee on Food Labelling):

6.1 The Name of the Food

The name of the product is "corned beef".

6.2 List of Ingredients

A complete list of ingredients shall be declared on the label in descending order of quantity by weight m/m, and a specific name shall be used for all of the ingredients.

6.3 Net Contents

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

6.4 Name and Address

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

6.5 Country of Origin

6.5.1 The country of origin of the product shall be declared.

6.5.2 When the product undergoes processing in a second country which changes its nature, the country in which the processing is performed shall be considered to be the country of origin for the purpose of labelling.

6.6 Additional Provisions

6.6.1 Impression of establishment number and country of origin on the container.

The establishment number and the country of origin shall be shown on the container in an indelible manner. The country of origin may be shown in code or in clear.

6.6.2 Impression of date of manufacture on the container

The date of manufacture shall be shown on the container in code.

7. METHODS OF ANALYSIS AND SAMPLING

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

7.1 Fat

Recommended method: "Determination of Total Fat Content" of Meat and Meat Products, ISO Recommendation R. 1443.

1/ These provisions are to be endorsed by the Codex Committee on Food Hygiene.

PROPOSED DRAFT CODE OF HYGIENIC PRACTICE FOR PROCESSED MEAT PRODUCTS

(Returned to Step 3 of the Procedure for a further round of Government Comments)

Note:- The numbers of the corresponding provisions in the Proposed Draft Code of Hygienic Practice for Fresh Meat (ALINORM 72/15, Appendix II) are given in the right hand margin.

- Side-lined portions indicate provisions specific to this Code.

SECTION I - SCOPE

This Code of Hygienic Practice, including the Annex, applies to processed meat products. It contains the minimum requirements of hygiene in the production, handling, packing, storing and transportation of processed meat products to assure a healthful and wholesome supply of meat products.

SECTION II - DEFINITIONS

For the purpose of this Code:

1. "Abattoir" means premises approved and registered by the controlling authority used for the slaughter of animals for human consumption. FM 1
2. "Brand" means any mark or stamp approved by the controlling authority and" also includes any tag or label bearing any mark or stamp. FM 2
3. "Cleaning" of surfaces means the removal of objectionable matter. FM 4
4. "Container" means any protective covering for meat products which is impermeable to gas and is constructed of materials which prevents the contamination of the contents during processing, handling and storage. FM 4
5. "Contamination" means the direct or indirect transmission of objectionable matters to the meat. FM 5
6. "Controlling authority" in relation to an establishment means the official authority charged by the government with the control of hygiene and inspection of meat and meat products. FM 6
7. "Disinfection" means the application of hygienically satisfactory chemical or physical agents and processes to cleaned surfaces with the intention to inactivate micro-organisms. FM 7
8. "Edible" means suitable as food for humans.
9. "Edible offal" means such offals as have been passed as fit for human food. FM 9
10. "Establishment" means any premises approved and registered by the controlling authority in which meat products are produced, prepared, processed, handled, packed or stored. FM 10
11. "Fresh meat" means meat which has not yet been treated in any way to ensure its preservation, except, that if it has been subjected to refrigeration, it should continue to be considered as "fresh" for the purpose of this Code. FM 12
12. "Hermetically sealed" means air-tight.
13. "Ingredient" means any substance used in the manufacture or preparation of a meat product.

14. "Inspector" means a properly trained officer appointed by the controlling authority of a country for the purpose of inspection of meat and meat products and supervision of meat hygiene. The supervision of the inspection of meat hygiene including the inspection of meat and meat products should be the responsibility of a veterinarian. FM 13
15. "Manager" in relation to an establishment includes any person for the time being responsible for the management of the establishment. FM 14
16. "Meat" means the edible part of any mammal slaughtered in an abattoir. FM 15
17. "Meat product" means a product intended for human consumption containing meat.
18. "Processed" includes all methods of preservation but does not include prepackaged fresh, chilled or frozen meat cuts or joints.
19. "Potable water" means water that is pure and wholesome at the point of usage in accordance with the WHO requirements contained in the "International Standards for Drinking Water". FM 16
20. "Protective clothing" means special garments intended to prevent the contamination of meat and used as outer wear by persons in an establishment and includes head coverings and footwear. FM 17
21. "Unfit for human consumption", in relation to meat and meat products, means an article that would normally be edible but is inedible because of disease, decomposition or any other reason.

SECTION III - INGREDIENT REQUIREMENTS

22. All meat used for the processing and manufacture of meat products should comply with the requirements of the Code of Hygienic Practice for Fresh Meat and The Code of Ante-Mortem and Post-Mortem Inspection of Slaughter Animals.
23. No meat or other ingredient should be used for the processing and manufacture of meat products which has undergone deterioration or any process of decomposition or which has been contaminated with foreign matter to an extent which has made it unfit for human consumption.
24. All ingredients should be adequately stored and kept off the floor after delivery to the establishment.
25. Where necessary, laboratory tests should be made of the ingredients prior to their being moved into the production area of the establishment.

SECTION IV - ESTABLISHMENT FACILITIES AND OPERATING REQUIREMENTS

A. Establishment Registration, Construction and Lay-out

- 26 Establishments should be approved and registered by the controlling authority. FM 21
- 27 (a) Establishments should be located in areas not subject to regular and frequent flooding and free from objectionable odours, smoke, dust or

- other contaminants. FM 22(a)
- (b) The size of the establishment should be sufficient to allow for the required working space. FM 22(b)
- (c) The construction should be sound and ensure adequate ventilation, good natural or artificial lighting and easy cleaning. FM 22(c)
- (d) The lay—out and equipment of the establishment should be such as to allow for efficient sanitary control. FM 22(d)
- (e) Effective facilities should be provided for the disposal of plant effluent and should at all times be maintained in good order and repair.
Catch-basins, traps, save-alls and sumps should at all times be kept separate and apart from any department in which meat or meat products are prepared, processed, handled, packed and stored. FM 22(e)
- (f) The establishment should be of such construction as to protect against the entrance and harbouring of insects, birds, rodents or other vermin. FM 22(f)
- (g) The buildings and facilities of the establishment should be kept in good repair at all times. FM 22(g)
- (h) The establishment should be equipped so as to permit proper performance of inspection and control. FM 22(h)
- (i) In every establishment there should be a physical separation between departments in which edible and inedible material is handled. FM 22(i)
- (j) The lay-out and the construction of the establishment should be such as to ensure that the departments in which meat or meat products are processed are used for that purpose only, or for that purpose only at one and the same time. If the departments are used for processing of non-meat products, the arrangements should be such that it can be ensured that there is no resultant contamination of the meat products.
- (k) In all rooms in an establishment other than rooms provided for the accommodation of workers and inspectors:
- (i) Floors should be of water-proof, non-toxic, non-absorbent materials, easy to clean and disinfect. They should be non-slip and without crevices and, except in the case of rooms where meat is frozen or stored, should slope sufficiently for liquids to be drained off to trapped outlets protected by a grill. FM 22(j)
(i)
- (ii) Walls should be of water-proof, non-toxic, non-absorbent materials, which are easy to clean and disinfect, smooth, and at a height appropriate to the operation conducted; they should be light coloured FM 22(j)

- and washable. The angles between the walls and the angles at the wall to floor junctions should be covered. (ii)
- (iii) Ceilings should be so designed and constructed as to prevent the accumulation of dirt and condensation and should be easy to clean. FM 22(j) (iii)
23. Refrigeration facilities. The construction and lay-out of any chilling room
- or freezer should satisfy the requirements of this Code. FM 25
25

29. Sanitary Facilities and Controls

- (a) Every department in which edible meat products are prepared, processed or stored should be used at that time only for that purpose or for the preparation of other edible products subject to the same conditions of hygiene. It should be physically separated from every area for the handling of inedible material or for other purposes.
- (b) Establishments should be layed-out and equipped so as to ensure that meat and meat products at no time come into contact with floors, walls or other fixed structures, except those which are specifically designed for contact with meat. FM 26(c)
- (c) The temperature in any room used for boning-out and trimming should at no time during working hours exceed 10 C, except as provided for in sub-section IV.C.35(d).
An ample supply of potable water under adequate pressure should be provided with adequate facilities for its storage and distribution and with adequate protection against contamination and pollution: FM 26(f) (i + ii)
- (i) All water available for use in those parts of establishments in which meat and meat products are prepared, processed, handled, packed or stored should be potable.
- (ii) Non-potable water may be used for such purposes as producing steam, cooling, refrigeration and fire control. Such water should be carried in completely separate lines, identified preferably by colour, and with no cross connection or backsiphonage with the lines carrying potable water.
- (e) Ice should be made from potable water and should be manufactured, handled, stored and used so as to protect it from contamination.
- (f) An adequate supply of hot potable water at no less than 82 C should be available at all times during the working hours. FM 26 (g)
- (g) All inedible material resulting from the preparation and processing of meat and meat products, refuse and rubbish should be removed promptly and in such a manner as to avoid contaminating meat or meat products, potable water, equipment, floors and walls. Inedible meat should be so treated that it cannot be used for human consumption, or supply food or harbour for vermin.

- (h) Establishments should have an efficient plumbing and waste disposal system
 All plumbing and waste disposal lines (including sewer systems) must be large, enough to carry peak loads. All lines must be watertight and have adequate traps and vents. Disposal of waste should be effected in such a manner as not to permit contamination of potable water supplies.
 The plumbing and the manner of waste disposal should be approved by the controlling authority having jurisdiction. FM 26(h)
- (i) Adequate lighting of 220 lux (20 foot candles) should be provided throughout the establishment. Where establishment employees and meat inspectors are engaged in work which requires better lighting, 325 lux (30 foot candles) or even 540 lux (50 foot candles) should be provided at working level and should not alter colours. Light bulbs and fixtures suspended over meat in any step of preparation should be of the safety type or otherwise protected to prevent contamination of meat and meat products in the case of breakage. FM 26(i)
 Adequate ventilation should be provided to prevent excessive heat, steam and condensation and ensure that the air of premises is not contaminated with odours, dust, vapour or smoke. Ventilation openings should be screened. Windows should be fitted with whole panes and those which open should be screened. The screens should be made so as to be easily movable for cleaning. Internal window sills, if present, should be sloped to prevent use as shelves. FM 26(j)
- (k) All doors should be sufficiently wide and those opening from edible departments, unless provided with an effective and operating air screen, should be solid, as far as practicable, self-closing or snug-fitting double action doors. FM 26(k)
- (1) All stairs located in any room used in any edible department should be so constructed that: FM 26(1)
 (i) They can be easily cleaned and no contamination can be caused by material passing through the risers or treads.
 (ii) They should have side curbs that are at least 10 cm in height measured at the leading edge of the treads. (i + ii)
- (m) Lift cages should be so constructed as to afford adequate protection of the meat against contamination. In particular the base and sides should be finished to a smooth impervious surface. Lift shafts should be smoothly finished or tiled. If painted a light colour should be used. The floor of lift shafts should be drained so as to permit effective cleaning. FM 26(m)
- (n) Platforms, ladders, chutes and similar facilities in any room used for the preparation or processing of meat and meat products should be constructed so as to be capable of being effectively cleaned and should consist of material which is resistant to fracture, abrasion, or

corrosion and which can be effectively cleaned.

FM
26(n)

- (o) Floor drains should be kept in good condition and repair with strainers in places.
- (p) Adequate provision should be made in every establishment for changing—room accommodation, toilets, and shower and washing facilities for all persons employed. All such accommodation, toilets, and shower and washing facilities should at all times be kept clean and should have adequate lighting and ventilation; and no changing-room, toilet, or room containing any shower or washing facilities should open directly into or upon any room, compartment, or space used for the preparation or processing of meat and meat products.

- (q) All rooms used for preparation, processing, packing or other handling of meat and meat products should be equipped with adequate facilities for washing hands, furnished with waste pipes leading to drains conveniently located for the use of personnel during operations. Taps of handwashing facilities should be of a type not requiring operation by hand. In addition, where necessary, an adequate supply of odourless soap (liquid soap of a disinfectant type in suitable dispensers), or other cleansing agents. A sufficient number of dispensers with paper towels and receptacles for used towels should be provided adjacent to each washing facility.

FM
26(o)

- (r) (i) In every room in an establishment in which meat and meat products are prepared conveniently located implement sterilizers in sufficient number should be provided. These implement sterilizers are for use exclusively in the disinfection of knives, steels, cleavers, saws and other implements used in the preparation or packaging of

FM
26(p)
(i)

meat and meat products.

(ii) Every sterilizer should be constructed of corrosion-resistant materials, and should be of such nature and size to be sufficient to enable all knives, steels, cleavers, saws and other implements used in the preparing of meat and meat products to be efficiently disinfected. The sterilizer should be capable of being emptied and cleaned at the end of each working day and at such other times

FM
26(p)
(ii)

as considered necessary by the inspector.

(iii) Any sterilizer in any part of the establishment used for the preparation of meat or meat products should be fitted with a suitable means of supplying water in sufficient quantity at a temperature of not less than 82 C at all times while meat or meat

FM
26(p)
(iii)

products are being prepared in that part of the establishment.

(iv) Facilities should be provided in each establishment for the cleaning and disinfection of trucks, trolleys, trays, gambrels, skids, hooks, pouches and other similar equipment and working implements at

FM

26(q)
(iv)

the conclusion of each working day.

Every establishment should include the following amenities:

- (a) In the case of persons employed: adequate changing-room accommodation, lunchroom, toilets with flushing water closets, showers and handwashing facilities. Taps of handwashing facilities should be of a type not requiring operation by hand; and suitable hygienic means of drying the hands should be provided. Where paper towels are used a sufficient number of dispensers with paper towels and receptacles for used towels should be provided adjacent to each washing facility. All such accommodation and toilets, and shower and handwashing facilities should have adequate lighting, ventilation and heating. No changing-room, lunchroom toilet or room containing any shower or washing facilities should open directly to any work areas. Handwashing facilities should be provided adjacent to every toilet. Waste from these facilities should not join the plant effluent system prior to the final save-all.

FM 27
(a)

- (b) In the case of inspection personnel: adequate changing room accommodation, drying room, lunchroom, toilets with flushing water closets, showers and handwashing facilities. Taps of handwashing facilities should be of a type not requiring operation by hand; and suitable hygienic means of drying the hands should be provided. Where paper towels are used a sufficient number of dispensers with paper towels and receptacles for used towels should be provided adjacent to each washing facility. The amenities reserved for the inspection service, and toilets, and shower and handwashing facilities should have adequate lighting, ventilation and heating.

FM
27(b)

31. Office accommodation should be provided for exclusive use of the meat inspection service. Laboratory facilities should be readily available for the purpose of meat inspection and meat hygiene.

FM 28

B. Equipment and Utensils

32. All equipment, implements and utensils used in establishments which come in contact with meat and meat products should present a smooth impervious surface and be resistant to corrosion and should be made from a material which is non-toxic, does not transmit odour or taste, smooth, free from pits, crevices, non-absorbent and capable of withstanding repeated exposure to normal cleaning and disinfection. Stationary equipment should be installed in such a manner as will permit easy access and thorough cleaning and disinfection. Such equipment should be so constructed that it may be easily cleaned.

FM 29

33. Equipment and utensils used for inedible or contaminated materials should be so identified and should not be used for edible products. FM 30
34. No containers, particularly wooden crates, wooden boxes or cartons, should be assembled and no containers, equipment, or utensils should be stored or deposited unless they are required in any part of an establishment in which meat or meat products are prepared, processed, handled, packed or stored unless the container, equipment, or utensils are required for use in that part. FM 32
- C. Hygienic Operating Requirements
35. (a) Rooms should be kept in good repair and clean at all times and, as far as practicable, free from steam, vapour and surplus water.
- (b) Amenities provided for the use of employees and the meat inspection service including the meat inspection office space should be kept clean at all times. FM 33(a)
- (c) If a room is used for any other purpose than the handling, preparation, processing, packaging or storage of meat and meat products, sanitation and disinfection is necessary immediately after such use.
- (d) Where meat is boned and trimmed in rooms other than rooms under temperature control as defined in IV.A.29(c) the room should at least every four hours be emptied and cleaned and all equipment and utensils thoroughly cleaned.
- (e) Any cooking of meat products should be done in separate areas suitably equipped for this purpose.
- (f) All equipment, implements, tables, utensils including knives, cleavers, knife pouches, saws and containers should be forthwith thoroughly cleaned and disinfected whenever they come in contact with diseased material, infected material or become contaminated. They shall also be cleaned and disinfected at the commencement and conclusion of each working day. FM 33(b)
- (g) The manager should take all necessary steps to ensure that washing down, cleaning and disinfection are carried out in compliance with
- (h) this Code. FM 33(c)
 Cleansing and disinfection of rooms or equipment, implements and utensils should be so effected that they do not contaminate by splashing any meat or meat product. FM 33(d)
- (i) Immediately after cessation of work for the day, or at such other times as may be required, the floor and walls should be thoroughly

- cleaned.
- (j) Where any skip or trolley or any container used in an edible department enters or is used in an inedible area it should be cleaned and disinfected immediately before re-entering any edible department. FM 33(e)
 - (k) Detergents, sanitizing agents and disinfectants should conform to public health requirements and should not be allowed to come into contact with meat or meat products. Any residue of these cleaning and sanitizing agents used for the washing of floors, walls or edible product equipment should be removed by thorough rinsing with potable water before the equipment is again used for handling meat or
 - (1) meat products. FM 33(f)
 - No cleaning preparation or material, or any paint should be used in any establishment where any meat or meat product is or may be prepared, handled, packaged or stored if it is likely to contaminate such meat or meat product. FM 33(g)
 - (m) No deleterious substance of any nature by which any meat or meat product may be contaminated should be handled or stored in any part of any establishment in which meat or meat products are prepared, handled, packaged or stored. However, materials employed in the construction or maintenance of an establishment may be used at any time when an inspector is satisfied that there would be no danger of contamination of meat or meat products. FM 33(h)
36. Pest Control
- (a) An effective and continuous programme for the control of insects, birds, rodents or other vermin within the establishment should be maintained. FM 34(a)
 - (b) Establishments and surrounding areas should be regularly examined for evidence of infestation with insects, rodents or birds. FM 34(b)
 - (c) Should pests gain entrance to establishments, permitted eradication methods should be instituted to get rid of them. The eradication of pests should always be carried out under skilled supervision and with the full knowledge of the inspector.
 - (i) Only pesticides approved by the competent authority having jurisdiction should be used in an establishment and the greatest care should be exercised to prevent any contamination of the meat or meat product. Pesticides should only be employed if other precautionary methods cannot be used effectively.
 - (ii) Before the application is commenced all meat and meat products should be removed from the room and all equipment and utensils covered. After spraying the equipment and utensils should be thoroughly washed prior to being used again.. FM 34(c)
(i)+(ii)
 - (d) All pesticides or other toxic substances should be stored in separate rooms or cabinets under lock and key and dispensed and handled only by authorised and properly trained personnel to avoid any possibility of contaminating any meat or meat product directly or indirectly, as

the case may be.

FM 34(d)

37. No animals should be allowed to enter or to live in rooms where meat or meat products are handled, prepared, processed or stored. FM 35

38. [(a) It is recommended that national legislations should provide for a medical examination of meat handlers, meat inspectors and other persons who have access to and come into contact with meat in establishments. Medical examinations should be carried out before these persons are employed and at regular intervals thereafter.]

FM
36(a)

[(b) No person who is suffering from, or who is a carrier of any communicable disease, notably diarrhoea, or is suffering from any condition causing a discharge of pus or serum from any part of the head, neck, arms or hands should engage in any establishment in the preparation, processing, handling or transportation of meat or meat products or should work in any department where meat or meat products are prepared, processed, handled or transported. Any such person should immediately report to the manager.]

FM
36(b)

(c) The manager should take care to ensure that no person, while known to be affected with a disease capable of being transmitted through food, or known to be a carrier of such disease micro-organisms, or while afflicted with infected wounds, sores, or any illness, is permitted to work in any area of an establishment in a capacity in which there is a likelihood of such person contaminating meat or meat products with pathogenic organisms.

FM
36(c)

(4) The manager of any establishment should, if required to do so by an Inspector, produce for perusal by the Inspector any medical certificate produced to the manager by an employee of the establishment.

FM
36(d)

(e) No person who is suffering from any cut or injury should engage in any establishment in the preparation, processing, handling, packaging or transportation of any meat or meat product unless and until the cut or injury has been so treated or dressed that the discharge of blood on to the meat or meat product has been prevented.

FM
36(e)

39 Hygiene of Personnel and Handling Practices of Meat and Meat Products

(a) Every employee should be taught the principles of hygiene and the relevant parts of this Code so as to be able to take the necessary precautions to prevent contamination of meat, meat products and ingredients used for the preparation of meat products.

(b) Every person engaged in an establishment should, before commencing work,

and on every occasion after visiting a toilet and before resuming work and whenever necessary, wash his hands thoroughly with soap, or other cleansing agent, and warm potable water. Notices requiring hand-washing should be displayed.

FM
37(b)

- (c) Every person engaged in an establishment should maintain a high degree of personal cleanliness while on duty, and should at all times while so engaged wear suitable protective clothing including a head covering and footwear all of which articles should be washable unless capable of being disposed of and which should be maintained in a clean condition consistent with the nature of the work in which the person is engaged.

FM
37(c)

- (d) Every person who visits an establishment should wear clean protective clothing.

FM
37(d)

No clothing or personal effects other than protective clothing should be deposited in any part of an establishment used for the preparation, processing, handling, storing, packaging or transportation of meat or meat products.

FM
37(e)

- (f) Protective clothing, knife pouches, belts and working implements may be left in a place provided for the purpose in such a manner that they will not contaminate any meat or meat product.

FM 37(f)

- (e) Eating, use of tobacco or chewing gum, and spitting should be prohibited in any part of an establishment used for the preparation, processing, handling, storing, packaging or preservation of meat and meat products.

FM
37(g)

- (h) Gloves, if used in handling of meat and meat products, should be maintained in a sound, clean and sanitary condition; the wearing of gloves does not exempt the operator from having thoroughly washed hands. Gloves should be made of an impermeable material except where the use of such material would be inappropriate or incompatible with the work involved.

FM 37
(h)

- (i) No person working in any establishment should wear on the hand any exposed bandage unless the bandage is completely protected by a waterproof covering and is of such a nature that it cannot become accidentally detached-

FM 37(i)

- (j) Staff handling raw materials or semi-processed products capable of contaminating the end product should not come in contact with any finished products unless and until they discard all such protective clothing worn by them during the handling of raw materials and semi-processed products which have come in direct contact or have been soiled by the raw material or semi-processed products. Hands and arms should always be washed thoroughly and disinfected after handling raw materials and semi-processed products prior to handling finished products.

D. Operating Practices and Production Requirements

- 40. Where the inspector considers that the manner under which meat or meat products are being prepared, processed, handled, stored or packaged, will adversely affect
 - (i) the cleanliness of the meat or meat product; or
 - (ii) the hygiene of production; or
 - (iii) the efficiency of inspection of meat and meat products,he may require the manager to take action to correct the deficiency or to reduce the rate of production or to suspend operations for the time being in any specified section of the establishment. FM
38(y)

- 41. Raw Material Handling
 - (a) No meat or meat products should be accepted by an establishment unless the meat or meat products have been derived from animals subjected to ante-mortem and post-mortem inspection. They should not be accepted unless they are properly branded or marked and in all ways suitable for human consumption and that they have not, subsequent to being examined by an Inspector, been exposed to contamination or processed or handled or subjected to the addition of any harmful substance which renders them unfit for human consumption.
 - (b) Meat and meat products should be handled, stored or transported in an establishment in a manner that will protect the meat and meat products from contamination and deterioration. FM
40(a)

- 42. Raw materials and semi-manufactured goods should be kept separated from outgoing finished products.

- 43. Preparatory operations leading to the finished product and the packaging operations should be so timed as to permit expeditious handling of consecutive units in production under conditions which would prevent contamination, deterioration, spoilage, or the development of infectious or toxigenic microorganisms.

- 44. Equipment such as trays, vats, tables, etc. should not be used interchangeably for raw products and cooked product unless it is completely cleaned and disinfected before moving to the area designated for cooked products. Exposed

ready-to-eat or cooked products should not be stored in the same room with raw meat.

45. The operation of boning-out and trimming should always be carried out as rapidly as possible and meat should not be allowed to accumulate in rooms used for boning-out and trimming.

46. Storage

(a) The following provisions should apply where meat or meat products are placed in chilling rooms, freezing, or frozen storage as the case may be:

- (i) Entry should be restricted to personnel necessary to carry out operations efficiently.
- (ii) Doors should not be left open for extended periods and should be closed immediately after use.
- (iii) No chilling room, freezing room or freezer store should be loaded beyond its designed capacity.
- (iv) Where refrigerating equipment is not manned, automatic temperature recorders should be installed.
- (v) If no automatic device is installed, temperatures should be read at regular intervals and the readings recorded in a log book.
- (vi) A record should be maintained of all meat placed in or taken out

FM
40(c)
(i)-(vi)

of the chilling room, freezing room or freezer store.

(b) In chilling rooms, the following provisions should be observed in addition to those in sub—section 46(a):

- (i) Temperature, degree of relative humidity and air flow should be maintained at a level suitable for the preservation of meat and meat products.
- (ii) Condensation should be prevented by the efficient operation of refrigerating facilities combined with proper insulation of walls and ceilings, the application of heat near the ceilings, or by any other suitable method. If overhead refrigerating coils are installed, insulated drip pans should be placed beneath them. Floor type refrigerating units should be placed within curbed and separately

FM
40(d)
(iii)

drained areas unless located adjacent to floor drains.

(c) Where meat and meat products to be stored are placed in any freezer store, the following provisions should be observed in addition to those in sub-section 46(a).

- (i) Meat or meat products should not be stacked directly on the floor but should be placed on pallets or on dunnage in such a way that there is adequate air circulation.
- (ii) The freezer store should be operated at a temperature which will give adequate protection to the type of product. Temperature fluctuations in the freezer store should be kept to a minimum. Where unpackaged meat is stored, the temperature difference between the evaporator and the meat should be kept to a minimum.

FM
40(d)
(iv)

FM
40(f)
(ii)

FM
40(f)
(iii)

- (iii) Refrigerating coils should be defrosted as required to prevent excessive accumulation of ice and loss of refrigerating efficiency. Provision should be made for removal, without effecting the product, of water resulting from defrosting. FM 40(f)(iv)
47. Transportation
- (a) Meat or meat products should not be carried in any means of transport which is used for conveying live animals.
- (b) Meat or meat products should not be carried in the same means of transport as other goods in a way which may adversely affect the meat or meat products.
- (c) Meat or meat products should not be put in any means of transport which has not been cleaned and disinfected (if necessary) before being loaded.
- (d) Means of transport should comply with the following conditions:
- (i) Design and equipment should be such that a required temperature can be maintained throughout the whole period of transport FM 42(e)(i)
- (ii) All parts which may come in contact with meat or meat products should be made of corrosion resistant material, present a smooth surface with smooth joints and be easy to clean and disinfect. FM 42(e)(ii)
- (iii) Floors should be effectively sealed so as to prevent the entry of contaminants or any leakage during transport. FM 42(e)(iii)
- (iv) Vehicles should be so constructed as to protect against the entry of pests. FM 42(e)(v)
48. Packaging of Finished Product
Packaging materials should be clean and should be stored and used in a clean and sanitary manner to prevent contamination of the final product. FM 41(a)
49. Preservation of Finished Product
Requirements for the preservation of specific groups of meat products are given in annexes to this Code (to be developed).
50. The finished product should be stored off the floor and transported under such conditions as will preclude contamination, infestation and deterioration of the product or of the container.
- E. Sanitation Control Programme
51. All aspects covered by this Code should be supervised by an official veterinarian. In particular, care should be taken that for every establishment at least one official veterinarian is appointed for the supervision of meat hygiene and inspection of meat and meat products. FM 44
52. It is desirable that each establishment in its own interest designates a single individual, whose duties are preferably divorced from production, to be held responsible for the cleanliness of the establishment. His staff should be a permanent part of the organization or employed by the

organization

and should be well trained in the use of special cleaning tools, methods of dismantling equipment for cleaning and in the significance of contamination

and the hazards involved. A permanent cleaning and disinfection schedule should be drawn up to ensure that all parts of the establishment are cleaned

appropriately and that critical areas, equipment and material are designated

for cleaning and/or disinfection daily or more frequently if required.

FM 45

F. Laboratory Control Procedures

In addition to the routine control carried out by the meat inspection services, it is desirable that each establishment in its own interest should have access to laboratory control. Analytical procedures used should follow

recognized or standard methods in order that the results may be readily interpreted.

FM 46

SECTION V - END PRODUCT SPECIFICATIONS

54. Appropriate methods should be used for sampling and analysis or determination to meet the following specifications:

- A. The products should be free from foreign matter to the extent possible in good manufacturing practice, as well as free from toxic substances in a concentration believed to constitute a public health hazard.
- B. The products should be free from any micro-organisms pathogenic to man and should not contain any toxic substances produced by micro-organisms in a concentration believed to constitute a public health hazard.
- C. The products should comply with the requirements for pesticide residues and food additives laid down by the Codex Alimentarius Commission.

ANNEX A

Preservation of Canned Meat Products in Rigid Containers

- (a) Meat products packed in hermetically sealed containers should be processed so that they present no public health hazard and withstand spoilage during subsequent storage, transport and sale. The temperature and duration of processing of specific formulations of canned meats should be based on the recommendations of technical specialists competent in canning technology.
- (b) Processing should be supervised in the establishment by technically competent personnel and be subject to check by the Inspector. Seam measurements should be made regularly during production and these, with processing records adequate to identify the processing and history of each batch of product should be kept by the management and made available to the Inspector.
- (c) No water, other than potable water, should be used for washing of empty containers or for the cooking or cooling of any hermetically sealed container. Where heat processed containers are cooled in water, any recirculated water should be treated by the addition of chlorine so that it contains not less than two

parts per million of free chlorine at the point of usage after a contact time of at least 20 minutes. Any other acceptable disinfectant may be used in effective concentration in place of chlorine.

- (d) Rough treatment of containers both before and after processing must be avoided to prevent the possibility of contamination of the processed product. No person should handle a wet can. Belts, runways and other can conveying equipment should be maintained in a clean condition and good repair.
- (e) Processed hermetically sealed containers should be inspected and any defective container rejected.
- (f) Adequate facilities should be provided for the incubation or random samples of individual batches of containers and batches should be warehoused until the result of the incubation test is known.
- (g) Every container should be permanently marked, either in code or otherwise, to identify the establishment, country and date of production.