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JOINT FAO/WHO FOOD STANDARDS PROGRAMME
CODEX ALIMENTARIUS COMMISSION
Seventh Session
Rome, 7-17 April 1970

REPORT OF THE SIXTH SESSION
OF THE
CODEX COMMITTEE ON FOOD HYGIENE

Washington D.C.
5-9 May 1969

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Introduction.

1. The Sixth Session of the Codex Committee on Food Hygiene was held at the Pan American Health Organization/WHO Building, in Washington, D.C., from 5 to 9 May 1969. The participants were welcomed on behalf of the Government of the U.S.A. by Mr. L. R. Shelton, Chairman of the Committee and Mr. G. Grange, U. S. Codex Coordinator. The list of participants is contained in Appendix I to this report.

Adoption of Agenda.

2. The Committee agreed to delete item 7 from the agenda relative to the consideration at Step 2 of the draft Code of Hygienic Practice for Pre-cooked Frozen Foods, including Semi-cooked, since the author country (Canada) had not found it possible to make the draft available to the delegates in advance of the session. It was agreed that this draft should be circulated for consideration at the next session of the Committee at Step 2. Apart from the deletion of item 7, the proposed agenda was adopted with a slight rearrangement in the order of items to be discussed.

Matters arising from the Report of the Sixth Session of the Commission relevant to the Work of the Committee.

3. The Committee took note of the contents of a Secretariat paper covering matters dealt with by the Commission at its Sixth Session which were relevant to the work of the Committee (cx4/20.3, April 1969). The paper covered the following matters:

- (a) codes of hygienic practice adopted by the Commission at Step 5, and advanced to subsequent Steps.
- (b) the desirability of having further countries represented at sessions of the Committee and of having them include in their delegations experts in the field of food microbiology, since the Committee would, in the future, be going more deeply into the question of microbiological procedures for sampling and analysis.
- (c) the confirmation of the chairmanship of the Committee under the Government of the U.S.A.

- (d) the opinion of the Legal Counsel of FAO and WHO to the effect that the Commission had authority under its Statutes to elaborate both codes of hygienic practice and codes of technological practice.
- (e) the responsibility of the Codex Committee on Food Hygiene for elaborating or endorsing microbiological methods of analysis and sampling for the purpose of verifying hygienic provisions in Codex commodity standards.
- (f) the need for including in Codex Committee reports summary statements indicating the status of the work of Committees,
and
- (g) criteria for the establishment of work priorities and for the establishment of new subsidiary bodies of the Commission.

4. The Committee was also informed that the Commission had decided to discontinue the existence of the Codex Committee on Poultry Meat. This latter point was of particular interest to the Committee since the Committee was elaborating a Code of Hygienic Practice for Poultry and Poultry Parts.

Terms of Reference of the Committee.

5. The Committee noted that the Commission had agreed that it would be desirable to include in the Terms of Reference of the Codex Committee on Food Hygiene a reference to the relationship between the Committee and FAO/WHO Expert Committees in the field of food hygiene. The Committee considered that it might be desirable for it to be in a position to seek the assistance of other international organizations, on occasions, particularly in the field of food microbiology. It considered it desirable therefore to provide for this eventuality in the Terms of Reference. The Committee agreed to add the following subparagraph (e) to its Terms of Reference as set out in the Procedural Manual (first edition) for consideration and adoption by the Commission at its next session:

"(e) to refer for consideration, as may be necessary, specific food hygiene problems to bodies in or set up by FAO and/or WHO or to other appropriate organizations having specialized knowledge of the problems concerned."

In proposing the addition of subparagraph (e) above to its Terms of Reference, the Committee emphasized that the specific food hygiene problems included, in particular, microbiological methodology and sampling.

Referrals from other Codex Committees.

Codex Committee on Fish and Fishery Products

6. The Committee considered the request of the Codex Committee on Fish and Fishery Products, as set out in paragraph 33 of ALINORM 69/18, that it should develop Codes of Hygienic Practice dealing with the handling of fresh and frozen fish at sea and on shore, fresh and frozen processed fishery products, canned fish products, molluscan shellfish, and smoked and semipreserved fish products.
7. It was agreed that the United Kingdom in collaboration with Australia should undertake responsibility for the elaboration of a Code or Codes on the handling of fresh and frozen fish at sea and on shore, and on fresh and frozen processed fishery products. The Committee took fresh and frozen processed fishery products to relate to products prepared in land based plants.
8. It was agreed that the U.S.A. should undertake responsibility for the elaboration of a Code of Hygienic Practice for canned fish products. Since fresh and frozen fish were the raw materials for canned fish products, it was agreed that the U.S.A. should take account of the draft code or codes to be elaborated by the United Kingdom in collaboration with Australia.
9. It was agreed that a draft code of hygienic practice for molluscan shellfish should be drawn up by the U.S.A. in collaboration with Italy.
10. It was also agreed that a code of hygienic practice for smoked and semi-preserved fish products should be elaborated by the Netherlands in collaboration with the U.S.A.
11. It was agreed, as suggested by the Codex Committee on Fish and Fishery Products, that the authors of the above draft codes should make use of, as appropriate, the earlier draft codes of hygienic practice on (i) molluscan shellfish and (ii) the sanitation and disinfection of fish plants, as well as the codes of technological practice on fish and fishery products being elaborated by the Fisheries Division of FAO, and the appropriate draft codes of practice prepared by OECD.
12. The Committee considered the request of the Codex Committee on Fish and Fishery Products that it make recommendations as to suitable methods of analysis and sampling for determining the presence of micro-organisms, in particular pathogens, in canned fish. In this connection, the Committee considered that there were no particular problems associated with canned fish which warranted a distinction being made between these products and other canned foods. The Committee requested the delegations

of Canada and the U.S.A. to prepare a paper for the next session of the Committee setting out some basic parameters and guidelines dealing with the microbiological analysis and sampling of canned fish. The Committee thought that such a document would serve as a useful basis for the development in time of microbiological methodology and sampling appropriate to all canned foods.

Codex Committee on Processed Fruits and Vegetables.

13. At the request of the above Committee, the Committee considered the question of the use of nisin in canned vegetables in the light of a paper on this subject which had been prepared by the United Kingdom delegation. The Committee noted that the United Kingdom paper cited authorities in various countries which showed that the use of nisin in canned vegetables in certain circumstances presented certain advantages, particularly, where the products were produced or intended to be sold in hot climates. The United Kingdom delegation pointed out that it was not suggested that the use of nisin should in any way be considered a substitute for adequate heat treatment and/or sound hygienic practices in the production of these products. It emerged from the discussions that:

- (i) The countries represented at the session did not generally permit the use of nisin in canned vegetables.
- (ii) That a number of countries which shipped canned vegetables to hot climates had not encountered any significant spoilage in these products even though the products had not been treated with nisin.

It was also suggested that:

- (i) The use of nisin could conceivably open the door to inadequate heat treatment or unhygienic practices in the handling of the products, as well as to the use of other antibiotics in these products.
- (ii) In view of the fact that most countries did not, in fact, permit the use of nisin in canned vegetables, approval of its use would not facilitate international trade.

14. The Committee was informed that the Joint FAO/WHO Expert Committee on Food Additives had established an ADI of 33,000 units per kilogram body weight per day for nisin. The Committee concluded from this that the question of toxicity from the use of nisin at the level proposed would not be a factor in deciding whether or not to recommend the use of this additive.

15. In conclusion, the Committee acknowledged that there might be a case for the use of nisin in canned vegetables in certain circumstances, but did not recommend the use of nisin in canned vegetables, in view of the fact that the use of nisin might give rise to certain hazards, such as the development of Cl. botulinum through underprocessing.

16. The Committee had before it for endorsement the following provision appearing in the Standard for Processed Tomato Concentrates.

"4.4 The diluted product (at approximately 9% soluble solids) may have not more than 50% positive fields when determined in accordance with the Howard Mold Count Method."

17. The Committee noted that it was the intention of the originating Committee that this provision should be mandatory. Although the majority of the Committee agreed at its previous session that a similar provision appearing in standards for fruit juices should be mandatory, the Committee recommended by majority decision that this provision in the standard for processed tomato concentrates should be advisory. The Committee recognized that its recommendation regarding the Standard for Processed Tomato Concentrates constituted a reversal of thinking on this matter, but based its view on the consideration that a precise mandatory mold count figure could result in an unnecessary obstacle to international trade in this product, by reason of the fact that it would be extremely difficult to ensure that entire consignments would meet this requirement when checked for compliance using a statistical sampling plan.

The delegations of the following countries considered that this provision should be advisory: Denmark, Italy, Ireland, the Netherlands, Philippines, Poland, Switzerland, United Kingdom, and United States. The delegation of Australia considered that this provision should be mandatory. The delegations of Canada and Turkey reserved their position on the question.

18. The Committee took note that adherence to specific provisions in the Code of Hygienic Practice would protect against mold contamination in the end-product. The Committee agreed that in the absence of a better method, the Howard mold count method could be used as a useful international method for determining mold contamination. As regards the figure proposed, most of the delegations present considered the figure of 50% to be satisfactory, but the delegation of U.S.A. thought that a figure of 40% or lower was attainable.

Question of Need for Endorsement of End-Product Specifications Recommended in Codes of Hygienic Practice and Adopted as Mandatory in Codex Commodity Standards.

19. The Committee noted an earlier decision of the Commission that parts of Codes of Practice, especially those dealing with end-product specifications could be included in Codex Standards and could then become mandatory. The Committee considered that, when end-product specifications which it had recommended to specific Codex Commodity Committees were included as mandatory requirements in standards being elaborated by these Committees and were in conformity with the recommended end-product specifications, it was not necessary that these mandatory requirements should subsequently be referred back to this Committee for formal endorsement. However, the Committee also agreed that where Codex Commodity Committees adopted, as mandatory requirements in standards, expanded versions of hygienic end-product specifications or parts of Codes of Hygienic Practice, other than end-product specifications, such mandatory requirements should be referred back to the Committee for formal endorsement.

The reason for this was that, with the exception of end-product specifications, the Committee had indicated in the past that it would be undesirable for Codex Commodity Committees to select specific provisions contained in Codes of Hygienic Practice for incorporation as mandatory requirements in commodity standards, since this might result in the placing of undue emphasis on certain provisions which the Committee might consider inappropriate.

Coordinating Committee for Europe.

20. The Committee considered referrals on hygiene provisions in the proposed draft provisional standards for Natural Mineral Waters, Edible Fungi and Fungus Products, Dried Edible Fungi, and Fresh Fungus Chanterelle and endorsed or pronounced its views on these referrals as follows:

(i) Natural Mineral Waters.

The Committee noted that its recommendation made at its last session in respect to natural mineral waters had been adopted by the Coordinating Committee for Europe. The Committee thought that the provisions on natural mineral water recommended for endorsement should include an introductory reference to the General Principles of Food Hygiene. In respect to (iii) of the hygiene provisions of this standard, the Committee suggested that the phrase "and to preserve the properties of the water in conformity with its definition" be deleted from this section of the standard, since it did not appear to be appropriate to this section. The Committee agreed that the Coordinating Committee for Europe might wish to consider whether it was

necessary to include this provision elsewhere in the standard. Apart from the foregoing, the Committee endorsed the hygiene provisions contained in this standard.

(ii) Edible Fungi and Fungus Products.

The Committee noted that this general standard covered all edible fungi including fresh fungi and fungi processed in a wide variety of ways. The Committee considered that the proposed hygiene provisions of the standards were, in view of the variety of product forms covered by the standard, too general to enable it to pronounce on them in a meaningful way. The Committee agreed that the Coordinating Committee for Europe should be asked to set out the hygiene provisions in more specific terms related to the products covered by the standard. The Committee also noted that other provisions in the standard, particularly some of the provisions on permitted defects which apparently the Coordinating Committee for Europe regarded as quality factors, such as mineral and organic impurities and maggot damaged fungi, might perhaps be considered as matters appropriate to the hygiene section of the standard, and requested the Coordinating Committee for Europe to consider this matter. The Committee also asked the Coordinating Committee for Europe to consider whether the section of the standard entitled "Examination and Sorting of Raw Material" referring to poisonous species of fungi ought not to be considered as a hygiene matter.

(iii) Dried Edible Fungi.

The Committee endorsed the hygiene provision in the standard for dried edible fungi, but called the attention of the Coordinating Committee for Europe to the remarks made in (ii) above regarding permitted defects.

(iv) Fresh Fungus Chanterelle

The Committee endorsed the hygiene provision in the standard for fresh fungus chanterelle.

Codex Committee on Food Labeling.

21. The Committee noted that the Codex Committee on Food Labeling had agreed with this Committee's suggestion that containers should be marked with the identification of the factory in which the products were produced, as an important part of food hygiene control. The Committee's referral to the Codex Committee on Food Labeling related in particular to desiccated coconut, and the Committee therefore accepted the recommendation of the Codex Committee on Food Labeling in this context.

Joint ECE/Codex Alimentarius Group of Experts on Standardization of Quick Frozen Foods.

22. At its last session, the Committee agreed that the draft Code of Hygienic Practice for Deep Frozen Fruit and Vegetable Products should be sent to the Joint ECE/Codex Alimentarius Group of Experts on Standardization of Quick Frozen Foods for consideration in connection with the General Standard which the Joint Group of Experts was elaborating for all quick-frozen foods. The Committee decided to do this, because the General Standard contained some provisions which a number of delegations to the Joint Group of Experts thought would be more appropriate to a Code of Practice. The Joint Group, at its last session, decided not to consider the draft Code in detail, since it was to be submitted to the Sixth Session of the Commission for adoption at Step 5, and subsequently circulated for a further round of government comments.

23. Thus, the Joint Group decided to await the text of the Code which would emerge from this Committee in the light of government comments to be received at Step 6. The Joint Group had also expressed the wish that when the draft Code was being sent out to governments for comments at Step 6, it should be accompanied by the General Standard for Quick Frozen Foods, so that this Committee could also take into consideration all matters in the General Standard relating to food hygiene. The Joint Group also decided that it would not be necessary to include in individual commodity standards the end-product specifications contained in Section V of the draft Code.

24. The Committee noted that the General Standard for Quick Frozen Foods had been placed before the Sixth Session of the Commission for consideration at Step 8. The Committee also noted that the Commission had been asked for guidance by the Joint Group as to whether the text before it should be regarded as a mandatory standard or as an advisory Code of Practice. The Committee was informed that the Commission had decided to ask the Joint Group to discontinue work on the General Standard and to consider the development of an advisory Code of Practice for Quick Frozen Foods, including, where appropriate, in such Code, sections of the former General Standard. The Committee further noted that, in asking the Joint Group to develop such a code, the Commission had requested the Joint Group to consider whether it would not be more advisable to entrust the task of elaborating Codes of Practice for specific commodity groups, such as fish, meat and dairy products, to the Commodity Committees concerned.

25. In view of this development, the Committee thought that the draft Code of Hygienic Practice for Quick Frozen Fruit and Vegetable Products might have increased significance for the Joint Group and was of the opinion that when the draft Code was being circulated to governments for comments at Step 6, their attention should be drawn to the fact that the draft Code contained a number of references to the former General Standard.

Codex Committee on Cocoa Products And Chocolate.

26. The Committee noted the views which had been expressed by the Codex Committee on Cocoa Products and Chocolate at its sixth session on the subject of hygienic requirements for chocolate and cocoa products as set out in para. 19 of ALINORM 69/10. The Committee noted, in particular, that the Chocolate Committee had considered that if manufacturers were to follow the General Principles of Food Hygiene there would be no need at this time to contemplate any specific microbiological standards for the end-product. The Committee thought it well, however, to inquire from the Chocolate Committee whether this view covered the point previously raised by the Hygiene Committee regarding the question of the development of end-product specifications relating specifically to yeast and mold counts in cocoa and chocolate products (see para. 12(b) of ALINORM 69/13).

Codex Sub-Committee IV on Processed Meat Products and Consumer Packaged Meat.

All Canned Meat Products.

27. The Committee considered the provisions contained in the hygiene sections of the draft standards for (i) canned hams, (ii) canned corned beef, (iii) canned luncheon meat, and (iv) canned chopped meat, in the light of the narrative on these provisions contained in the Report of the Sub-Committee, supplemented by an explanatory commentary given by the Chairman of the Sub-Committee, Dr. V. Enggaard (Denmark).

28. The Committee endorsed the preamble in the hygiene section of all four standards.

29. As regards the cooling of processed containers in water, the Committee noted that the Sub-Committee had incorporated in all four standards the text which it had proposed to the Sub-Committee at its last session.

30. The Committee noted the remarks of the Sub-Committee with regard to the packaging of the products in hermetically sealed containers and agreed to await any changes in the terms of this provision that might be agreed upon by the Sub-Committee in the light of any suggestion that might be put forward by the drafting group set up by the Sub-Committee.

Canned Hams

Heat Treatment

31. The Committee noted that the Sub-Committee had decided at its last session, with the exception of the delegation of the Netherlands, to raise the minimum heat treatment for all the canned meat products being dealt with by it, from 65.5°C to 68.9°C. The Committee noted the statement of the Danish delegation that the Sub-Committee had considered that the figure of 68.9°C coupled with the other provisions of the standard, particularly those on additives and storage instructions, represented a proper safeguard from the point of view of public health, and at the same time was designed to guard against the transmission of foot-and-mouth disease. It was pointed out to the Committee that it was a matter for the Sub-Committee to ensure that the product for which it was elaborating a standard was one which would be acceptable from the point of view of quality and sensory criteria generally. Therefore, it had to be taken that the Sub-Committee, with the exception of the delegation of the Netherlands, was satisfied that these factors had been fully considered in fixing the figure of 68.9°C.

32. The delegation of the Netherlands had, at the last session of the Sub-Committee, taken the view that a figure of 65.5°C was sufficient to achieve the object of protecting public health. The delegation of the Netherlands at this session of the Food Hygiene Committee reiterated this view, basing it on the following considerations:

- (a) there are no data available which would support the view that human pathogenic microorganisms are destroyed at 68.9°C, but not destroyed at 65.5°C.
- (b) if a temperature of 65.5°C coupled with the other relevant provisions of the standard is adequate as a public health safeguard, there is no public health reason to raise the figure to 68.9°C, which adversely and unnecessarily affects the quality and taste of the product.
- (c) there are no data available which would support the view that the foot-and-mouth disease virus is transmitted through canned hams, and, even if such data were available, there is no evidence that a temperature of 68.9°C would prevent the transmission of this virus.

33. It was pointed out to the Committee that the proposal before it was in respect of the figure of 68.9°C, and that it was being asked to say whether it considered this figure, coupled with the other relevant provisions of the standard, constituted an adequate public health safeguard. There was no suggestion from any delegation that the figure of 68.9°C coupled with the other relevant provisions in the standard was not adequate from the point of view of public health.

34. The Committee noted from the Chairman of the Sub-Committee that the figure of 15°C recommended for products required to be stored in a cool place in the storage instructions in the standard was subject to review by a drafting group set up within the Sub-Committee. In view of the foregoing considerations, and of the fact that the Sub-Committee would be considering a draft Code of Hygienic Practice for Meat Products at its next session, and taking into account the views expressed by the delegation of the Netherlands, opinion in the Committee was more or less equally divided on the issue of whether to endorse the heat treatment provision in the canned ham standard at this time. The following countries were in favor of endorsement at this time: Australia, Ireland, United States, United Kingdom, Canada and Denmark. The following countries were in favor of deferring a decision on endorsement at this time and of seeking further information from the Sub-Committee: Netherlands, Italy, France, Switzerland and Poland. The delegations of the Argentine Republic and Cuba subsequently associated themselves with those delegations electing to defer a decision at this time. The delegation of the Philippines reserved its position. In the circumstances, the Committee decided to postpone a decision on endorsement of this provision at this time pending further consideration of the subject by the Sub-Committee.

Canned Luncheon Meat and Canned Chopped Meat.

Heat Treatment.

35. The Committee endorsed the heat treatment provision in the draft standards for canned luncheon meat and canned chopped meat. The question was put as to why those delegations which were willing to endorse the heat treatment provision in the draft standards for canned luncheon meat and canned chopped meat, were not willing to endorse an identical heat treatment provision in the draft standard for canned ham. It was stated in reply that the reason for not endorsing the heat treatment provision in the canned ham standard was largely that, unlike canned luncheon meat and canned chopped meat, heat treatment at 68.9°C had a significant adverse effect on the quality of canned hams.

Position Regarding Referrals by the Codex Committee on Food Hygiene
To the WHO Expert Committee on Food Hygiene.

36. The Committee noted that the majority of the referrals to the WHO Expert Committee on Food Hygiene had already been responded to (see ALINORM 69/13, paras., 8-10) and that there were only three referrals outstanding, namely:

- (i) development of standardized methodology including sampling procedures for determining freedom from pathogens and toxic substances originating from microorganisms in fish and fish products;
- (ii) special methods needed for the examination of products of high fat content for pathogenic organisms;
- (iii) microbiological specifications for egg products, Enterobacteriaceae test, and the alpha-amylase test.

37. In connection with the paragraph which the Committee proposed to add to its Terms of Reference (see para. 5 of this Report), the representative of WHO brought to the attention of the Committee ways in which the proposed addition to the Terms of Reference of the Committee would facilitate response to the three remaining referrals. He also pointed out that a working document on the microbiological examination of fats, oils and products rich in fats had already been elaborated by Dr. D. A. A. Mossel (Netherlands). It was also brought to the attention of the Committee that the International Committee on Microbiological Specifications for Foods had published a text entitled "Microorganisms in Foods" which contained microbiological methods approved by a number of specialists in this field. It was pointed out that this material could serve as a very useful basis for the pursuit of the Committee's work in this field.

Draft Code of Hygienic Practice for Tree Nuts.

38. The Committee examined the above draft Code which was contained in Appendix VI to the Report of the last session of the Committee and agreed on several amendments thereto including the addition of Macadamia nuts to the scope section. The draft Code as amended by the Committee is contained in Appendix III of this report. The Committee agreed to send the draft forward to the next session of the Commission at Step 5.

39. The Committee reconsidered the question of including in the draft Code a provision proposed by the United States at the last session relative to "sanitizing facilities," which had received a certain measure of support in the country comments on the draft. Having heard arguments for and against the inclusion of a provision of this kind in

the draft Code, the Committee agreed not to include the proposed provision in the Code because it considered that to do so would be to place an unwarranted emphasis on this product and the processing operation associated with it vis-a-vis other products and processing procedures, and because it considered that the General Principles of Food Hygiene contained adequate safeguards in this respect.

Proposed Draft Provisional Code of Hygienic Practice for Eggs and Egg Products.

40. The Committee noted that extensive and substantive written comments had been received from several countries on this draft code. In view of the many and important matters of substance to be resolved in the document and the lack of time to deal with them adequately, the Committee decided to hold it for consideration at its next session at Step 4.

41. In order to take advantage of the countries' comments that had already been received and distributed, it was agreed that interested countries should review the draft code and their individual comments on it, in the light of other countries' comments and resubmit revised comments, where appropriate. Countries were requested to accompany their comments with proposed textual amendments, as far as possible, with supporting hygienic reasons therefor. The comments should be sent to the Chairman of the Committee with a copy to the United Kingdom delegation not later than 1 December 1969. It was agreed that this draft code would be ascribed a high order of priority at the next session.

Control of Pasteurization Procedures in Egg Products.

42. The Committee considered a paper prepared by the Netherlands entitled, according to their Terms of Reference, "Microbiological tests in relation to the presence of Salmonellae in Egg Products", dated March 1969. The delegation of the Netherlands indicated that the heading "Control of Good Pasteurization Procedures for Egg Products" would better reflect the intention of their paper. It was explained in the paper that the Netherlands had investigated various ways of controlling good pasteurization procedures, and had conducted some examinations on samples of pasteurized eggs, in an attempt to delineate differences in reliability of the results obtained from two test methods, namely microbiological and alpha-amylase.

43. The conclusions drawn in the paper were that the microbiological test method had certain advantages, in that it provided the information that (i) pasteurization had been adequate and (ii) no post-pasteurization contamination had occurred. The alpha-amylase test, on the other hand, did not cover post-pasteurization contamination.

44. The Committee agreed that there was a need for a test method to check the adequacy of pasteurization, which could be applied at the plant level and possibly for official agency use. Both test methods were considered from this point of view, but the Committee did not reach any firm conclusion at this time as to which was the better method. However, it generally tended to prefer a microbiological screening procedure at this time.

Draft Code of Hygienic Practice for Poultry and Poultry Products.

45. The Committee examined in detail the above draft code which had been prepared by the United Kingdom and which was contained in Appendix VIII to the Report of the last session of the Committee. The Committee agreed on several amendments to the draft and the text as amended by the Committee appears as Appendix II to this report. The Committee agreed that the draft code should be sent to Governments for comments at Step 3.

46. Significant changes made in the draft code included the following:

- a. A change in the scope of the document to exclude cooked poultry and other poultry products consisting of edible parts of poultry in combination with other ingredients, e.g. chicken soups;
- b. The deletion from the document of various provisions which were more in the nature of technological specifications and advice than of a hygienic nature, as well as provisions relating to the bird rearing areas;
- c. The deletion from the draft of provisions which dealt with ante-mortem and post-mortem inspections. These provisions were deleted for the following reasons:
 - (i) most delegations considered that such inspections were the function of the appropriate official agency in the country concerned;
 - (ii) most delegations considered that the proposed provisions in the Code regarding ante-mortem and post-mortem inspections were not sufficiently comprehensive and detailed, to enable a country to rely on them as an entirely suitable basis for elaborating their own regulations in the field of ante and post-mortem inspections.

Status of Draft Codes of Hygienic Practice.

47. In accordance with the decision of the Commission at its Sixth Session the Committee identified the status of its work on Codes of Hygienic Practice as follows:

(a) Codes considered at the Sixth Session of Committee.

- (i) Code of Hygienic Practice for Tree Nuts considered at Step 4 and advanced to Step 5.
- (ii) Code of Hygienic Practice for Poultry and Poultry Parts considered at Step 2 and advanced to Step 3.

(b) Codes postponed or held in abeyance.

- (i) Code of Hygienic Practice for Precooked Frozen Foods, including semi-cooked postponed for consideration at Step 2.
- (ii) Code of Hygienic Practice for Eggs and Egg Products - held for reconsideration at Step 4.
- (iii) Draft Code of Hygienic Practice for Desiccated Coconut - advanced by the Commission to Step 6.
- (iv) Draft Code of Hygienic Practice for Dehydrated Fruits and Vegetables including Edible Fungi - advanced by the Commission to Step 6.
- (v) Draft Code of Hygienic Practice for Deep-Frozen Fruits and Vegetable Products - advanced by the Commission to Step 6.

(c) New Codes accepted for elaboration.

- (i) Code of Hygienic Practice for Handling Fresh and Frozen Fish at Sea and on Shore (United Kingdom in collaboration with Australia - 8th Session)
- (ii) Code of Hygienic Practice for Fresh and Frozen Processed Fishery Products (United Kingdom in collaboration with Australia - 8th Session)
- (iii) Code of Hygienic Practice for Canned Fish (United States - 8th Session)

- (iv) Code of Hygienic Practice for Molluscan Shellfish
(United States in collaboration with Italy - 8th Session)
- (v) Code of Hygienic Practice for Smoked and Semi-preserved Fish Products (Netherlands in collaboration with the United States - 8th Session)

Quoting in Extenso of Relevant Provisions of the General Principles of Food Hygiene in Individual Codes of Practice.

48. The Committee agreed on the desirability of quoting in extenso in individual Codes of Practice references contained therein to the General Principles of Food Hygiene. The Committee was of the view that this would be in the interest of the work, since the absence of a complete text showing the relevant sections of the General Principles sometimes led to misunderstanding in the formulation of comments. It was agreed that this procedure would also have the advantage of enabling errors to be detected which might otherwise escape the attention of the Committee, before final adoption by the Commission at Step 8 for issue to Governments.

Program of Future Work.

49. The Committee agreed to deal, at its next session, with the following items, in the order of priority indicated, (i) referrals from Codex Committees and from the Commission, (ii) the draft codes at Step 6 for desiccated coconut, dehydrated fruits and vegetables including edible fungi, deep frozen fruit and vegetable products, (iii) the draft codes at Step 4 for Eggs and Egg Products and Poultry and Poultry Parts, and (iv) the draft code at Step 2 for Precooked Frozen Foods.

50. The Committee recognized that it would be desirable to deal with the draft codes of Hygienic Practice for Fish and Fishery Products as soon as possible, but considered that it would be unrealistic to think that there would be sufficient time available at its next session to deal with these drafts, in view of the workload above. The Committee decided, therefore, to defer consideration of the draft codes for fish and fishery products to its 8th Session. The author countries were requested to send the drafts to the Chairman of the Committee not later than September 1, 1970.

Dates and Place of Next Session.

51. To be fixed at the Seventh Session of the Codex Alimentarius Commission.

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LIST OF PARTICIPANTS

OFFICERS OF THE MEETING

Chairman

Mr. L. R. Shelton
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JOINT FAO/WHO CODEX ALIMENTARIUS COMMISSION
CODEX COMMITTEE ON FOOD HYGIENE

Proposed Draft Code of Hygienic Practice for
Poultry and Poultry Parts
(going to Step 3)

To be read in conjunction with the General Principles of Food Hygiene. Side-lined portions indicate material which is particular to this Code of Hygienic Practice and therefore does not appear in the General Principles of Food Hygiene.

SECTION I - SCOPE

This Code is concerned with all poultry and poultry parts intended for human consumption, whether by direct sale or through further processing, including carcasses which are uneviscerated or prepared as "ready to cook."

It applies to all premises in which poultry is slaughtered, packed, or otherwise handled in the course of preparation, and all premises in which poultry parts are processed, packed, or otherwise handled in the course of preparation.

SECTION II - DEFINITIONS

- "Poultry" means any live or slaughtered domesticated bird (chickens, turkeys, ducks, geese, or guinea-fowls).
- "Consumer package" means any container in which poultry or poultry parts are enclosed for the purpose of display and sale to household consumers.
- "Dressed poultry" means poultry which has been slaughtered for human food with head, legs, and viscera intact and from which the blood and feathers have been removed.
- "Dressed degutted poultry" means poultry which has been slaughtered for human food with head and legs intact and from which the blood, feathers and gut have been removed.

- "Giblets" means the liver from which the bile sac (gall bladder) has been removed, the heart with or without the pericardial sac and the gizzard from which the lining and contents have been removed; provided that each such organ has been properly trimmed and washed.
- "Immediate container" includes any consumer package; or any other container in which poultry carcasses or poultry parts, not consumer packaged, are packed.
- "Poultry parts" means any edible part or parts of the poultry carcase.
- "Ready-to-cook poultry" means any dressed poultry from which the vestigial feathers (hair or down, as the case may be), head, crop, trachea, oesophagus, entrails, reproductive organs, and lungs have been removed, and with or without giblets, and is ready to cook without need of further processing. Ready-to-cook poultry also means any cut-up or disjointed portion of poultry or any edible part thereof, as described in this paragraph.
- "Offal" means any tissue other than skeletal tissue and the skin and fat normally associated with it and includes the head, neck, feet and giblets.
- "Edible offal" means giblets and such other offal as may be nationally accepted as edible.
- "Evisceration" means removal in whole or in part of the viscera.

* * *

SECTION III - RAW MATERIAL REQUIREMENTSA. Environmental Sanitation in Raw Food Material Production Areas.

NOTE: - Recommendations in this Section are not designed to cover the very important questions of hygiene and disease control in poultry growing and rearing areas. These factors have a particular bearing on this code but are the responsibility of the official agency having jurisdiction.

- (1) Sanitary disposal of human and animal wastes. As in the General Principles of Food Hygiene with the addition of:

Arrangements for the disposal of trade refuse and inedible offal should be approved by the appropriate official agency. A separate refuse room or other equally adequate storage facilities should be provided on the premises. All droppings, litter, scrapings, etc., from cages, crates, and vehicles should be removed in such a way as to prevent contamination and not create a nuisance.

- (2) Animal, plant pest and disease control. Where control measures are undertaken, treatment with chemical, biological, or physical agents should be done only in accordance with the recommendations of the appropriate official agency, by or under the direct supervision of personnel with a thorough understanding of the hazards involved, including the possibility of toxic residues being retained.

B. Sanitary Food Production.

- (1) As in the General Principles of Food Hygiene.
- (2) Sanitary techniques. Any live poultry holding section and attendant processes such as egg collection should be quite separate from the slaughtering and poultry packing section. This applies particularly to the disposal of refuse and storage of poultry feeding stuffs.

The premises should be cleared of all live poultry at least once weekly to facilitate complete and thorough cleansing. Birds should normally be slaughtered within 24 hours of arrival and any water fed to them should be of potable quality.

- (3) Removal of obviously unfit materials. On arrival and throughout the process, unfit birds should be removed as soon as possible and segregated for disposal in an appropriate manner.
- (4) As in the General Principles of Food Hygiene, but omitting the words "and the methods of harvesting."

C. Transportation.

- (1) Facilities. Conveyances and crates for transporting the live birds from the production area should be adequate for the purpose intended and should be of such material and construction as will permit thorough cleaning and should be so cleaned and maintained as not to constitute a source of contamination.

SECTION IV - PLANT, FACILITIES, AND OPERATING REQUIREMENTSA. Plant Construction and Layout.

- (1) Location, size, and sanitary design.

- (a) As in the General Principles of Food Hygiene, Section IV A (1), with the addition of the following: Whether existing buildings are being adapted or new premises are being built, early consultation with the appropriate official agency is essential.

A proper work flow is necessary to secure good hygiene standards. An example of a suitable work flow with physical separation of the processes is illustrated in Fig. 1 which can be adapted, according to requirements.

- (b) Roadways and yards. Roadways and yards serving the premises should have a hard, paved surface which is suitable for wheeled traffic, and should have provision for thorough cleaning and adequate drainage where necessary.
- (c) Walls, ceilings, and floors. Walls should be finished to a smooth, nonabsorbent, washable surface, be light in color, and the junction between walls and floor should be coved or splayed to facilitate cleaning. Ceilings should be so constructed and finished as to minimize condensation, mold development, flaking and the lodgement of dirt. Floors should be of durable, impervious non-slip material, free from cracks and open joints and laid to an even surface properly sloped to an adequate drainage system.

Buildings which have unlined roofs should be constructed and finished to minimize condensation, mold development, flaking, and dirt.

- (d) Woodwork, doors, and windows. Internal woodwork should be kept to a minimum, being of simple design, easy to clean, and be tight fitting to wall surfaces. Doors and jambs should, where necessary, be fitted on both sides with non-corroding metal or other suitable materials as a protection from impact damage, and doors should be fitted with self-closing devices. All external openings and doors and openable external windows should be equipped to exclude flying insects. Windowsills should be splayed at an angle.

(2) Sanitary facilities and controls.

- (a) As in the General Principles of Food Hygiene.
- (b) Water supply. An ample supply of both hot and cold water should be available of the potable quality referred to in the General Principles of Food Hygiene, Section IV A(2)(b).
- (c) and (d) As in the General Principles of Food Hygiene.
- (e) Plumbing and waste disposal. As in the General Principles of Food Hygiene, with the addition of the following:
Sumps or solid matter traps included in the drainage system should be emptied and cleaned frequently and at the end of every working day. Every inlet into the drainage system should be trapped and no drain ventilation pipe should open into any processing room.

Any internal open channelling should be rounded and of sufficient width to allow for easy cleaning, and of minimum efficient depth. Covering grids should be easily removable for cleaning. Channels should be flushed frequently during processing and thoroughly cleaned at least once daily.
- (f) Lighting and ventilation. As in the General Principles of Food Hygiene, with the addition of the following: Lighting should have an overall intensity of not less than 325 Lux (30 foot candles), and in inspection areas this should be increased to not less than 540 Lux (50 foot candles) and be properly directed onto the bird.
- (g) and (h) As in the General Principles of Food Hygiene.

B. Equipment and Utensils.

- (1), (2), and (3) As in the General Principles of Food Hygiene.
- (4) Bleeding and blood collection. Bleeding equipment and blood containers should be constructed of metal or other suitable impervious material which is easy to clean. They should be thoroughly cleaned after use and at least once daily. Blood tunnels through which birds travel on a conveyor should be of metal or solid wall construction. Metal tunnels should be fitted with side and head shields easily removable for cleaning. The base trough should have a slight fall to a blood container which is easily emptied and cleaned. Tunnels of solid wall construction should be tiled or otherwise smooth surfaced with impervious material, suitably drained, and should be of sufficient width and so constructed as to facilitate thorough washing down and cleaning.

(5) Processing equipment.

- (a) Tanks used for immersing carcasses in hot water (scalding tanks) should provide for the water to be continuously circulated and replaced. Tanks should be emptied at regular intervals and at least once every working day.
- (b) Plucking machines should be designed to control the scatter of feathers as much as possible. The feather removal should preferably take place continuously or as often as necessary, throughout the working day. Unless removed continuously by running water they should be stored in suitable clean containers which should be removed at least once daily.
- (c) Perforated metal draining surfaces should be reversible for cleaning purposes.
- (d) Storage containers for inedible offal should be constructed of metal or other suitable impervious material which is easy to clean, and be covered with close-fitting lids.
- (e) Evisceration troughs should be constructed of stainless steel or other suitable material. The main water flow should be in the opposite direction to that in which carcasses are travelling so that the eviscerated carcass arrives for cooling at the point where clean water enters the trough. Additionally, trickle jets of clean water should be provided along both sides of the trough, and supplies of running water should also be provided over the trough for hand rinsing. Outlets for inedible offals should be provided in the troughs at suitable intervals where the length of the trough is more than 9 metres. (30 feet).
- (f) Equipment used for chilling the birds should be constructed of stainless steel or other suitable material and should be so operated as to prevent the build up of microorganisms in the cooling medium.
- (g) Compounds used in immersion or spray freezing procedures should be acceptable to the appropriate official agency.

C. Hygienic Operating Requirements.

- (1) Sanitary maintenance of plant, facilities, and premises. As in the General Principles of Food Hygiene, Section IV C(1), with the addition of the following:
- (a) Cleaning routine. Cleaning, rinsing and disinfection of premises, equipment and utensils should be carried out at such intervals and by such methods as are approved by the appropriate official agency. Continuous review of the effectiveness of these procedures is recommended.
 - (b) To avoid the risk of cross-contamination, blood and feathers should be kept away from the plucked carcasses as they go on for further processing.
 - (c) Each process should be carried out in its own clearly defined area.
 - (d) Carcasses which are received rough plucked for further processing should be hung singly or arranged in single layers on racks, etc.
 - (e) When finishing and cleaning dressed poultry, the vestigial feathers (hair or down as the case may be) should be removed; feed should be removed from the crop without incising the tissues and the faecal material in the cloaca should be removed by such means as will prevent contamination; e.g., by suction. These operations should be completed prior to, or during, the final washing.
 - (f) Wax dipped carcasses should be handled so that set wax and removed feathers will fall into a suitable container. Only clean wax which has been stored in a clean place should be used for wax dipping. Feather separation sieves included in wax dipping machines should be removable and cleaned once daily. Reclaimed wax should be melted, skimmed, washed, and filtered or passed through a centrifugal cleaning machine and afterwards stored in a clean place.
- (2), (3), (4), (5), and (6) As in the General Principles of Food Hygiene.

D. Operating Practices and Production Requirements.

(1) Inspection and sorting

- (a) Prior to introduction into the processing line, or at a convenient point within it, poultry should be inspected, sorted or culled as required to remove unfit birds. Such operations should be carried out in a clean and sanitary manner.
- (b) In order to maintain good hygienic conditions and to prevent hazards to the consumer, antemortem and post-mortem inspections should be carried out by the appropriate official agency.

(2) Preparation and processing

- (a) As in the General Principles of Food Hygiene, Section IV D(4).
- (b) Temperature and cooling and freezing procedures. Temperatures and procedures which are necessary for cooling and freezing dressed and ready-to-cook poultry, including all edible portions thereof, should be in accordance with operating practices which ensure the prompt removal of the animal heat and preserve the condition and wholesomeness of the poultry.
 - (i) General cooling requirements. Poultry should be cooled immediately after preparation to an internal temperature of 5°C (40°F) or less. Any rise in temperature, to a maximum of 12°C (55°F), during processes such as cutting up should immediately be followed by cooling to 5°C (40°F) or less. Poultry which is to be held at the plant in packaged form in excess of 24 hours should be so stored that an internal body temperature of 5°C (40°F) or less is maintained.
 - (ii) Cooling giblets. Giblets should be chilled to 5°C (40°F) or lower within 2 hours from the time they are removed from the bird.
 - (iii) Chilling procedures. Any chilling procedure which will achieve the temperatures within the times quoted above and the objectives set out in IV B(5) (F), may be used.

- (iv) Refrigeration. Premises where poultry, poultry parts, or other edible parts are kept should have adequate refrigerated storage.

The temperature in the storage area where non-frozen poultry, poultry parts, and other edible parts are kept should preferably be as close to 0°C (32°F) as possible and under no circumstances exceed 5°C (40°F).

Relative air humidity should be between 80% and 85% at 0°C (32°F). When temperature rises the relative air humidity should be reduced.

Poultry, poultry parts and other edible parts should be so stored that they are protected against deterioration and mold growth and should be regularly inspected. There should be adequate circulation of air around them. They should not be within 15 cm (6 inches) of the floor and should be stored in such order as to ensure that they are despatched in strict rotation.

Cold rooms used for bulk storage should preferably be fitted with automatic defrosting equipment. Care should be taken to avoid the transference of dirt into the rooms.

- (v) Preservation by freezing. Poultry, poultry parts, and other edible parts which are intended for preservation, by freezing, should be frozen as soon as possible and should not be held chilled for more than 48 hours.
- (vi) Ice-pack containers. When poultry is ice-packed in barrels or other containers, the barrels and containers should be covered and should have an adequate number of drain holes to permit the water to drain out.

- (3) Packaging of finished product. As in the General Principles of Food Hygiene, Section IV D(5).
- (4) Preservation of finished product. As in the General Principles of Food Hygiene, Section IV D(6).
- (5) As in the General Principles of Food Hygiene, Section IV D(7).

E. Sanitation Control Program.

As in the General Principles of Food Hygiene.

F. Laboratory Control Procedures.

As in the General Principles of Food Hygiene.

SECTION V - END-PRODUCT SPECIFICATIONS

As in the General Principles of Food Hygiene, Section V.

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SECTION III - RAW MATERIAL REQUIREMENTSA. Environmental Sanitation in Growing and Food Production Areas.

- (1) Sanitary disposal of human and animal wastes. Adequate precaution should be taken to ensure that human and animal wastes are disposed of in such a manner as not to constitute a public health or hygienic hazard, and extreme care should be taken to protect the products from contamination with these wastes.
- (2) and (3) As in the General Principles of Food Hygiene.

B. Sanitary Harvesting and Food Production.

- (1) Tree nut harvesting procedures generally include shaking the trees and picking the nuts off the ground. Since nuts are picked off the ground, the orchard preferably should not be used for grazing or holding cattle or other animals. If the land has been so used, the orchard should be worked immediately prior to harvesting (disced, rototilled, or soil turned in some manner) prior to harvest to lessen the hazard of faecal contamination of food products. Where the exclusion of animals and subsequent working of the land are impracticable, other steps should be taken to protect the nuts during harvesting; for example, the spreading of protective sheets below the trees.
- (2) As in the General Principles of Food Hygiene.
- (3) Sanitary techniques. Harvesting and production operations, methods procedures should be clean and sanitary. This includes the hulling and drying of nuts that are generally considered part of the harvest or farm operation. Hulling and drying equipment should be so constructed that it can be easily cleaned and maintained. When water is used in this process, it must be potable water.
- (4) Removal of obviously unfit materials. Unfit nuts should be segregated during harvesting and production to the fullest extent practicable and should be disposed of in an appropriate manner. Following hulling it is recommended that all nuts be subjected to a defect separation and quality inspection before they are delivered for further processing into human food. Nuts should not be delivered for such processing unless they are free from obvious faecal contamination, infestations, decomposition and other defects, such as broken shells, imbedded dirt, blows, etc., to an extent which would render them unfit for human consumption.

- (5) Protection of nuts from contamination. Suitable precautions should be taken to prevent the nuts from being contaminated by animals, insects, mites and other arthropods, vermin, birds, chemical or microbiological contaminants, or other objectionable substances during handling and storage. The nature of the nut and the methods of harvesting will indicate the type and degree of protection required. The nuts should be moved to suitable storage, or to the processing area for immediate processing, as soon as possible after harvesting or drying. Where nuts are likely to have become infested with insects or other arthropods during or after harvesting, as a preventive measure suitable treatment such as fumigation should be applied. Nuts held for processing should be stored in closed containers, buildings, or under suitable type of covering that protects them from rodents, insects and other arthropods, birds, debris, and dust. Fumigation methods and chemicals used should be approved by legal authorities having jurisdiction. High humidities which are conducive to proliferation of mold and elaboration of mycotoxins should be avoided.

C. Transportation.

- (1) and (2) As in the General Principles of Food Hygiene except the final sentence of (2) dealing with ice.

SECTION IV - PLANT FACILITIES AND OPERATING REQUIREMENTS

A. Plant Construction and Layout

- (1) Location, size, and sanitary design
As in the General Principles of Food Hygiene.
- (2) Sanitary facilities and controls
(a), (b), (d), (e), (f), (g), and (h) As in the General Principles of Food Hygiene.

B. Equipment and Utensils.

As in the General Principles of Food Hygiene.

C. Hygienic Operating Requirements.

- (1), (2), (3), (4), (5), (6) As in the General Principles of Food Hygiene.

D. Operating Practices and Production Requirements.

(1) Raw material handling.

(a) Acceptance criteria. The raw material should not be accepted by the plant if known to contain decomposed, toxic, or extraneous substances which will not be removed to acceptable levels by normal plant procedures of sorting or preparation. Particular care should be taken to avoid contaminating either inshell nuts or nut meats with either animal or human faecal material, and if it is suspected that nuts have been so contaminated, they should be rejected for human consumption. Special precautions must be taken to reject nuts showing signs of mold growth because of the danger of their containing mycotoxins.

(b) and (c) As in the General Principles of Food Hygiene.

(2), (3), (4), and (5) As in the General Principles of Food Hygiene.

(6) Preservation of finished product. The finished product of shelled nuts or nut meats shall be of such a moisture content that they can be held under normal conditions without significant deterioration by decay, mold, or enzymatic changes. Finished products may be treated with chemical preservatives at levels approved by the Codex Committee on Food Additives as referenced in the Commodity Standard, heat processed and/or packed in hermetically sealed containers, so the product will remain safe and will not spoil under normal conditions.

(7) Storage and transport of finished product. The finished product should be stored and transported under such conditions as will preclude the development of pathogenic or toxigenic microorganisms; and protect against deterioration of the product or of the container.

(a) All finished products should be stored in clean, dry buildings, protected from rodents, insects, mites and other arthropods, birds, or other vermin.

(b) Optimum storage conditions for tree nuts:

(i) For optimum conditions store at approximately 1°C (34°F) with a relative humidity from 60% to 70%.

(ii) Where nut products are stored under conditions in which they may become infested by insects and mites, appropriate methods of protection should be used regularly. Nut products should be stored in such a manner that they can be fumigated in situ or so

that they can be removed elsewhere for fumigation in special facilities (e.g., fumigation chambers, steel barges, etc.). Cold storage can be used, either to prevent infestation in localities where insects are likely to be present in ordinary storage or to prevent insects damaging the nut products.

E. Sanitary Control Procedures.

As in the General Principles of Food Hygiene.

F. Laboratory Control Procedures.

In addition to any control by the official agency having jurisdiction it is desirable that each plant in its own interest should have its own or access to laboratory control of the sanitary quality of the nut products processed. The amount and type of such control will vary with the different nut products as well as the needs of management. Such control should reject all nuts that are unfit for human consumption. Analytical procedures used should follow recognized or standard methods in order that the results may be readily interpreted.

SECTION V - END-PRODUCTS SPECIFICATIONS

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

- A. To the extent possible in good manufacturing practice, the products should be free from objectionable matter.
- B. The products should not contain any pathogenic microorganisms or any toxic substances originating from microorganisms.
- C. The products should comply with the requirements set forth by the Codex Committee on Pesticide Residues and Food Additives as referenced in the Commodity Standards.