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JOINT FAO/WHO FOOD STANDARDS PROGRAM

CODEX ALIMENTARIUS COMMISSION

Fifth, Session, Rome, 20 February - 1 March 1968

CODEX COMMITTEE OH FOOD ADDITIVES

Report of the Fourth Session, 11-15 September 1967

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INTRODUCTION

1. The Committee met at the Hague, Netherlands, from 11 - 15 September 1967 for the fourth time, under the Chairmanship of Prof. M.J.L, Dols, Chairman of this Committee and of the Codex Alimentarius Commission. At the meeting Government experts and advisers from Argentina, Australia, Belgium, Canada, Denmark, Trance, Finland, Federal Republic of Germany, India, Ireland, Israel, Italy, Japan, Norway, Paraguay, Poland, Sweden, Switzerland, Turkey, United Kingdom, United States of America and Netherlands were present. In addition, the following organizations were represented: Council of Europe, E.E.C., I.D.F., I.I.F., I.O.C.U., I.S.O., I.U.N.S. A complete list of participants, including officers of FAO and WHO, is set out in Appendix I.

AGENDA

2. The meeting had before it a new provisional agenda, and agreed in the main with the arrangement of the items proposed. It was noted that when the proposals for additives in Codex Commodity Standards were under consideration, discussion would also be permitted on other relevant items of the agenda, such as estimation of additive consumption, heavy metals content and general lists for additives.

GENERAL

3. The Committee agreed that it was not the purpose of this Committee to send proposals to governments for comment through the Steps of Procedure for the Elaboration of Standards, except possibly in the case of general lists and for the use of Food Additives in foods for which no Codex Commodity Committee exists* It was agreed that the task of the Committee was to consider and endorse, where appropriate, the recommendations of the Codex Commodity Committees.

4. With respect to food items which are dealt with by Codex Commodity Committees, the Codex Committee on Food Additives agreed that it did not have to comment on the technological necessity but would rely on the recommendations of the Codex Commodity Committee concerned. It was agreed, however, that for general groups of additives or for additives in products which were not the responsibility of particular Commodity Committees, this Committee would have to examine the technological need. The Food Additives Committee would examine the proposals of Codex Commodity Committees in the light of the toxicological evaluation provided by the Joint FAO/WHO Expert Committee on Food Additives bearing in mind the possible consumption of the additive. Endorsement would have to be temporary unless sufficient data were available on the actual consumption of food items containing the additives and/or whenever toxicological information was inadequate. The Committee strongly recommended that governments should collect information on the consumption of foods in their own countries and in particular on the actual intake of additives.

5. The Committee began the discussion of the additives in Codex Standards with the examination of the additive requirements in those standards which were to come before the Commission at its next session in February 1968 at Step 8 of the Procedure for the Elaboration of Codex Standards.

6. A number of delegations pointed out that although they may endorse the additive provisions in the standards as presented to this Committee, on the basis of the

terms of reference of this Committee, they did not consider that this endorsement bound governments or delegations to take a similar position at sessions of the Commodity Committees concerned.

ADDITIVES IN MARGARINE (Step 8)

7. The first standard examined was that for margarine, which appeared in the Report of the fourth meeting of the Codex Committee on Fats and Oils. The document summarising the additive requirements in this standard (CCFA/67/7, Table 5, items 50, 52, 53, 55 and 61 to 86) was used as the working paper and the decisions are set out in tabular form in Appendix II. The following points were also brought up in the discussion of the additives in margarines:

8. The Committee temporarily endorsed for use in margarine flavouring components, which occur naturally in foodstuffs, and identical synthetic components. The Committee recommended a low priority for flavouring substances and components as a topic for further investigation by the Expert Committee.

9. The Committee in endorsing lecithin drew the attention of the Commission to the fact that the wording had been altered but not the substance, and thus the matter could be considered directly by the Commission without referring it back to the Codex Committee on Fats and Oils.

10. Concerning the emulsifiers to be used in margarine, appearing in the Appendix, these were endorsed with reservations on the part of the Federal Republic of Germany, France and Switzerland, as indicated, since these products were still being evaluated in their countries.

11. In the case of the preservatives the majority of the Committee endorsed the use of these additives in margarine with the qualifications shown in Appendix II for the delegations which reserved their position on this endorsement. The Committee indicated that benzoic acid might be a case where, if limitations are to be imposed on its use due to a consumption which approaches the acceptable dally intake, the use of benzoic acid In margarine should be considered again.

ADDITIVES IS SUGARS (Step 8)

12. The Committee next considered the sugars at step 8 in the procedure for the elaboration of standards, namely, glucose syrup, dried glucose syrup, dextrose monohydrate, anhydrous dextrose and lactose and either endorsed or temporarily endorsed the provisions in the standards, these provisions are tabulated in Appendix III with the following additional comments:

13. In the case of the limit for lead in these products the Committee endorsed the value of 2 mg/kg temporarily and noted that this was higher than the level which would be generally acceptable for lead. This Committee requested the Codex Committee on Sugars to consider at some future meeting if it was really necessary for the level to be as high as this in both crystalline sugars and the intermediate products.

14. In connection with the recommended use of glucose syrup for the manufacture of sugar confectionery only, the Committee heard representations that glucose syrup with this level of sulphur dioxide (400 mg/kg) was also needed for soft drinks. The Committee recommended in the light of this new information that glucose syrup with this level of sulphur dioxide could be used only for the

production of foods permitted to contain specific quantities of sulphur dioxide, provided the prescribed limit for sulphur dioxide in those foods is not exceeded by the addition of the glucose syrup containing sulphur dioxide.

ADDITIVES IN PROCESSED FRUITS AND VEGETABLES (Step 8)

15. The Committee examined the standards for processed fruits and vegetables which are to appear before the Commission in February 1968. The standards at step 8 are canned applesauce, canned tomatoes, canned green or wax beans, canned peaches, canned sweet corn and canned grapefruit. The Committee considered most of the additives to appear in these standards, giving the decisions indicated in Appendix IV, with the following qualifying remarks:

16. In the case of isoascorbic acid used as an antioxidant to replace ascorbic acid, a number of delegations objected to this use since, in their opinion, this constitutes the replacement of a product with a beneficial effect by another substance which may also create analytical difficulties both in nutritional and clinical analysis.

17. The temporary endorsement of vegetable gums, alginates and propylene glycol alginate in canned vegetables was agreed upon only for products containing butter.

18. The Committee considered the tentative proposal of the Codex Committee on Processed Fruits and Vegetables concerning the use of Nisin in canned green beans and canned wax beans at a level of 100 Reading units/g. In view of the fact that no firm agreement had been reached by that Committee on the technological need for this antibiotic and in the absence of toxicological evaluation, the Committee did not endorse the proposal but referred Nisin to the Joint FAO/WHO Expert Committee on Food Additives for consideration.

19. The Committee referred the matter of colours in Canned Green Beans back to the Codex Committee on Processed Fruits and Vegetables for a firm proposal on this matter since a tentative proposal was not acceptable at this late state in the development of the standard. This standard should, however, be sent to the Commission at step 8 with an indication that the proposals on colours were not endorsed at this time. In addition the same decision was reached for colouring materials in Canned Applesauce with the added note that some of the colours had not 136611 given an acceptable daily intake by the Joint FAO/WHO Expert Committee on Food Additives. The Committee also questioned whether the standard should include highly coloured speciality products and requested the Codex Committee on Processed Fruit and Vegetables to indicate proposed levels of use for all colours in all products.

20. The Japanese Delegation drew the attention of the Committee to the use of aluminium salts and polyphosphates in Japan for preserving the colour of green vegetables instead of using synthetic dyes. The Committee suggested that this information be sent to the Codex Committee on Processed Fruit and Vegetables.

21. The Committee endorsed the use of monosodium glutamate in Green and Wax Beans without indicating at this time whether it was to be considered as an additive.

22. The Committee endorsed the acids used in processed fruits and vegetables but noted that the above Commodity Committee should consider in future the technological question of the use of other than the natural acids usually present

in these products, bearing in mind the strong corrosive action of acetic acid on tin plated cans and the reversal of the tin-iron potential which may be brought about by malic acid.

ADDITIVES IN MILK AND MILK PRODUCTS (To governments for acceptance)

23. The Committee examined the additive provision in the standards elaborated by the Joint FAO/WHO Committee of Government Experts on the Code of Principles concerning Milk and Milk Products and which have already been accepted by many governments. The Committee endorsed these provisions, shown in Appendix V, and made the following comments:

24. The Committee noted the reservation of the Federal Republic of Germany on the presence of antioxidants in butter-oil for manufacturing purposes. The Committee recommended to the Committee dealing with Milk and Milk Products that the maximum level for gallates should be restricted to 100 mg/kg total. The delegate of France considered that the limit of 200 mg/kg for all antioxidants was excessive.

25. The Committee understood that milk treated with hydrogen peroxide under emergency circumstances does not enter international trade and therefore the Committee did not consider that this particular requirement came within the scope of the Codex Alimentarius.

26. Concerning neutralizing salts in butter, the Committee noted the concern expressed by some delegations about the increasing number of use of phosphates. It also noted the requirement in France that butter containing neutralizing salts would need a declaration to this effect on the label.

27. Carraghenan was not endorsed as an additive pending assessment by the Joint Expert Committee on Food Additives, For similar reasons annatto and curcumin were given a temporary endorsement.

ADDITIVES IN FRUIT JUICES (earlier steps)

28. The Committee considered the requirements for additives in the standards for fruit juices and the decisions of the Committee are given in tabular form in Appendix VI. The following points were also raised in the discussion of additives in these standards:

29. The Committee recommended lowering the figure for tin content from the proposed level of 250 mg/kg in view of reports of gastrointestinal disorders when canned juice, beverages, were consumed containing levels of tin approaching the figure suggested. The Joint Expert Committee on Food Additives was recommended to reinvestigate tin. It has been claimed that tin contamination of canned fruit juices functions as an antioxidant. Some delegations were of the opinion that should an antioxidant be needed in such products for technological reasons, consideration should be given to the use of one of the accepted antioxidants. Some delegations were of the opinion that appropriate measures should be taken in such cases so as to maintain the level of tin within acceptable limits.

30. The Committee agreed that the iron and total metals content were technological requirements on which it need not comment upon provided the product met the limits for heavy metals in their inorganic form. The Committee noted the possible inconsistencies between the permitted total metals content and the permitted

levels of tin and other metals and referred this matter to the Committee dealing with fruit juices.

31. In connection with the levels of sulphur dioxide in processed foods in general, the Committee draws the attention of the Commission and the Codex Commodity Committees to the fact that levels of sulphur dioxide in the total diet are approaching values which may exceed the acceptable daily intake for this additive, and recommends that all Committees consider carefully the levels of use of sulphur dioxide and the actual levels found in the products when setting limits in standards.

32. Concerning the clarifying agents the Committee endorsed these products for the technological purposes indicated since only small residues of these substances are likely to remain in the products being standardized. It was recommended that the standards for purity elaborated by the International Vine and Vine Office should apply to these clarifying agents. Only those preservatives should be added to clarifying enzymes which are identical with those permitted in the final food product, and the amount used should be such as not to cause the total amount in the food product to exceed the limit set for it.

ADDITIVES IN SUGARS (earlier steps)

33. The Committee examined the recommendations of the Codex Committee on Sugars regarding additives in standards at a less advance stage in the procedure for the elaboration of standards. The Committee endorsed the provisions for sulphur dioxide in soft brown sugar and plantation sugars as indicated in Appendix III.

34. The additives used as anticaking gents given below in powdered sugar were referred to the Joint FAO/WHO Expert Committee on Food Additives for toxicological evaluation.

Tricalcium phosphate Magnesium phosphate Magnesium carbonate [a/] Magnesium trisilicate Sodium calcium aluminium silicate Calcium silicate Dehydrated silica gel	At a maximum level of 1.59% singly or in total

[a/] See FAO Nutrition Meetings Report Series, 40, A, B, C; WHO/Food AM/67.29-31; Report of the tenth session of the Joint FAO/WHO Expert Committee on Food Additives.

The Committee referred the question of technological need and levels of use to the Commodity Committee and suggested that the possibility be considered of replacing all or any of the additives by starch.

ADDITIVES IN PROCESSED FRUITS AND VEGETABLES (earlier steps)

35. The Committee considered further recommendations of the Codex Committee on Processed Fruits and Vegetables and recommended that:

36. In the case of modified starch the Commodity Committee should be asked to define clearly which modified starches were meant.

37. Stannous chloride as an additive in asparagus packed in glass was not endorsed and was referred back to the Commodity Committee with the request that it consider replacing by a possible alternative. It was also referred to the Joint Expert Committee on Food Additives for evaluation as an additive to foods.

38. In view of the fact that the data available * to the Expert Committee were inadequate for toxicological evaluation, the additional colours appearing in processed fruit and vegetable standards other than those at step 8 were also referred back to the Commodity Committee for reconsideration of their technological use. These colours were: allow 2 G (Colour Index (1956) Number 18965) and Brilliant Black BN (Colour Index (1956) Number 28440).

* 8th and 30th reports of the Expert Committee References)

ADDITIVES HI PATS AND OILS (earlier steps)

39. The Committee considered the references from the Codex Committee on Fats and Oils concerning the General Standard for Edible Fats and Oils and for specific oils and fats, as well as certain other questions commented upon below. The decisions of the Committee are set out in tabular form in Appendix VII, The comments are as follows:

40. In connection with antioxidants some delegations expressed the view that the Commodity Committee should consider reducing the figures for BHA and BHT since the intake of these antioxidants may be approaching the acceptable daily intake when the levels consumed from all food sources rather than the levels added to these fats and oils are taken into consideration.

41. In the case of the colours added to fats and oils which are embraced by the general standard, the Committee assumed that the Codex Committee on Fats and Oils intended these be used only for a slight adjustment of the colour of such oils.

42. The Committee noted the objection of the Swiss delegation to the presence of sorbitan esters of fatty acids on the list of emulsifiers, in fats used for baking and cooking only. These emulsifiers were endorsed with the exception of those which had not been examined by the Expert Committee to which they were referred.

43. The antifoaming agent dimethyl polysiloxane used only in fats and oils for frying, was referred to the Expert Committee for toxicological evaluation.

44. The technological limitations as to volatile matter, insoluble impurities, soap content and iron were not considered by the Committee.

45. Concerning antioxidants in standardized individual oils and fats the Committee endorsed the previous provisions but a number of delegations indicated that they did not consider that antioxidants were necessary in the oils.

46. The Committee did not endorse nordihydroguaiaretic acid (NDGA) or resin guaiac because of inadequate toxicological information and the Committee was informed that NDGA was perhaps no longer manufactured.

47. Monoisopropyl citrate was endorsed with a reservation on the part of the United Kingdom because toxicological investigations are still underway on isopropanol. The delegations of France, Switzerland and the Federal Republic of Germany expressed their reservations to this additive because they did not wish, on principle, to increase the number of additives used in foods at this juncture.

48. The use of phosphoric acid as a sequestrant in animal fats was referred back to the Commodity Committee because of concern about the dietary load of total phosphates relative to calcium.

49. The Committee endorsed monoglyceride citrate with a reservation on the part of the United Kingdom, in view of the fact that the product used in the United Kingdom may not fee identical with that considered by the Expert Committee.

50. The Committee considered the other matters referred to it by the Codex Committee on Fats and Oils and in turn referred them to the Joint FAO/WHO Expert Committee on Food Additives. These matters were: Aflatoxin in oils; gossypol in cottonseed oil; the emulsifiers referred to in paragraph 12 of the report of the fourth meeting of the Codex Committee on Fats and Oils; the antioxidants isoamyl gallate, ethyl protocatechuate and tocopherol esters.

ADDITIVES IN COCOA PRODUCTS AND CHOCOLATES (earlier steps)

51. The Committee considered the proposals of the Codex Committee on Cocoa Products and Chocolate concerning food additives. The decisions made are indicated in Appendix VIII. The proposals were endorsed with the following exceptions:

52. Consideration of solvent residues was postponed until the Expert Committee had studied this matter.

53. The free-flowing agents (anticaking agents) were referred to the Expert Committee for toxicological evaluation.

54. Spices were not considered as food additives.

ADDITIVES IN MILK AND MILK PRODUCTS (referals from 10th Session)

55. The Committee considered the recommendations of the Committee of Government Experts on the Code of Principles concerning Milk and Milk Products for additives in cheese and its decisions on these additives are set forth in the tabulation in Appendix IX. The Committee also wished to put on record the following comments:

56. The Committee was informed that the amount of carotene needed to colour cheese would be a maximum of 10 mg/kg. Chlorophylls, including copper chlorophylls, were not endorsed because of inadequate toxicological information.

57. The Committee postponed endorsement of the use of nitrates in cheeses and delegates were asked to forward further information on the formation of nitrosamines in cheeses by the Joint FAO/WHO Expert Committee on Food Additives before the end of 1967. The Committee recommended a review by the Expert Committee of the whole problem relating to nitrates and the levels of their consumption in foods in order to assess the hazard to health.

58. Potassium chlorate was not endorsed pending toxicological evaluation by the Expert Committee.

59. In the case of sorbic and propionic acids and their salts, the Committee endorsed the proposals but noted that the levels seemed rather high and requested the Committee dealing with milk products to examine whether the levels used could be lowered in view of the high total load of the substances.

60. The Committee noted the opposition of Switzerland to the use of nisin in cheeses on the grounds that the use of this substance could make possible the manufacture of processed cheese of inferior quality. The delegation of Israel opposed the use of any preservative in fresh cheese. The use of nisin and pimaricin was referred to the Expert Committee for appraisal.

61. The Committee recommended that liquid or condensed smokes be con have regard to the absence of carcinogenicity in the product. The Committee of Government Experts dealing with milk was asked to define the smoking process, since a proper description is needed in order to develop a code of practice for the control of this process. This code should be "based upon expert advise from food technologists.

62. Decisions on compounds referred to in the document available from the Committee of Government Experts on Milk Products was postponed pending receipt of the information in detail.

63. The Committee of Government Experts dealing with milk was asked to clarify what was meant by the wording "seasonings and flavourings" and was also asked to compile a list of the substances used for cheese coating or packaging in order that at some future date these substances could be considered by the Codex Committee on Food Additives.

ANTIMICROBIALS

64. The delegate of Canada introduced a paper on the use of certain antimicrobials as food preservatives, and the Committee adopted the following recommendations on the basis of this report:

65. That the Codex Committee on Processed Fruits and Vegetables should be asked to indicate the lowest technologically justifiable level for each additive in the following products:

Benzoic acid and its salts: in pickled vegetables; jams, jellies and preserves; tomato puree and paste.

Sulphur dioxide in fruit pulp for manufacturing purposes; jams, jellies and marmalade; dried fruit and dried vegetables; and in liquid food pectin since this product will appear in the jam standards.

Sorbic acid and its salts in pickles; dried and moisturized fruit; jams, jellies and preserves.

66. That the Codex Committee on Fish and Fish Products should be asked to indicate the lowest technologically justifiable level for each additive in the following products:

Benzoic acid and its salts in marinated and other cold processed (semi-preserved) packaged fish.

Sorbic acid and its salts in dried fish, salted or smoked; marinated or other cold (semi preserved) packaged fish.

67. That the Joint E.C.E/Codex Committee on Fruit Juices should be asked to indicate the lowest technologically justifiable level for each additive in the following products:

Sorbic acid and its salts in fruit juice bases for manufacturing purposes and juices, beverage bases and concentrates requiring dilution before consumption.

68. That the International Vine and Wine Office (OIV) be invited to provide figures on the lowest effective levels of both total and free sulphur dioxide for each of the major classes of wines and for sorbic acid and its salts in wine and fruit wine and to comment upon the use of any other preservatives in wine.

69. That the Joint FAO/WHO Expert Committee on Food Additives again be invited to study the question of the toxicity of the bound forms of sulphur dioxide in food.

70. That Governments be invited to comment and to indicate the technological justification and lowest effective levels of use of the following additives in the indicated products:

Benzoic acid and its salts in egg products; soft drink bases, syrups or concentrates

Sulphur dioxide in beer; gelatin; starch

71. That Governments be requested to give more detailed comments on the exact types of cakes in which sorbic acid is permitted and any other restrictions on the use of sorbic acid in cakes and bread.

72. That in the case of the para-hydroxrbenzoic acid esters, the Committee should await positive suggestions from the Codex Commodity Committee for the use of these additives.

73. That the Codex Committee on Methods of Analysis and Sampling should give a high priority to approving standard methods for the determination of sulphur dioxide in foods.

74. That delegations were asked to advise the Canadian delegation by the end of 1967 of other foods in which any of the above antimicrobials might be required and also of other antimicrobials used in foodstuffs for consideration at the subsequent meeting of this Committee.

Among the suggestions on this topic presented from the floor of the meeting were the use of sulphur dioxide in dehydrofrozen fruits and vegetables as mentioned by a delegate from Sweden; diethylpyrocarbonate at a maximum treatment level of 300 mg/kg for the treatment of beverages such as soft drinks, wine, fruit juices and certain beers as a replacement for sulphur dioxide, mentioned by the delegate of the Federal Republic of Germany; formic acid in fruit juices for syrups and in fruit pulp used for making jams and jellies where the additive boils off and here the additive can replace sulphur dioxide, and octyl gallate as a bacteriostat in beer at a low level mentioned by the delegate of Belgium.

FLOUR TREATMENT AGENTS

75. The Committee examined the comments received from governments on flour treatment agents and recommended that the list of flour treatment agents appearing in Appendix X be sent to the Commission for their consideration at the equivalent of step 5 of the Procedure for the Elaboration of Codex Standards. The Swiss delegation expressed a general reservation against the use of these agents since in their opinion the use of these substances may mislead the

consumer. It was the opinion of the Committee that this list needed a further round of government comments after having been seen by the Commission.

ANTIOXIDANTS

76. In the examination of the various additive requirements in Commodity Standards, the main uses of antioxidants in foods had been covered. An additional use which was mentioned was that of antioxidants in essential oils used as flavouring materials. Governments were asked to send information to the Swiss delegation as to the anti-oxidants used and the level of use in essential oils before the end of 1967, and this information should be submitted to the Committee at its next meeting.

FLAVOURINGS

77. After a discussion on the question of negative and positive lists of flavourings, and an indication of other work being undertaken in this field by other bodies, the Committee agreed to postpone action on this topic either in this Committee or in the Expert Committee until there is a report available from the Working Party on Natural and Synthetic Flavourings in the Public Health Committee of the Partial Agreement of the Council of Europe.

78. In connection with the listing of carrier solvents for flavouring and other substances used in foods, governments were requested to add to this list any other solvent actually used for this purpose and the levels permitted in foods of such solvents which become part of the food. This information should be sent before the end of 1967 to the delegation of the U.S.A. and the revised list should then be submitted to the Expert Committee.

COLOURS

79. The Committee agreed to refer to governments the preliminary list containing the colour matters from the groups A, B and CI in accordance with the latest evaluation by the Expert Committee on Food Additives. It is to be made clear that the colours in the groups B and CI are only listed on a temporary basis and will be re-evaluated as additional toxicological data become available. Those colours for which no ADI's are established in five years will no longer appear on this list. The list is given in Appendix XI.

EMULSIFIERS AMD STABILISERS

80. The Committee received the paper from the delegate of Denmark containing a tabulation of the emulsifiers and stabilisers, their levels of use and the foods in which they are used. The Committee also received papers on the uses of carboxymethyl cellulose and methyl cellulose from the observer of the Organization of Manufacturers of Cellulose Products for Foodstuffs in the B.E.C. which will also be sent to the relevant Codex Commodity Committees for their consideration. The Committee also received documents on hydroxypropyl cellulose from the delegate of the U.S.A., and it was recommended that this product be considered by the Expert Committee on Food Additives.

ENZYME PREPARATIONS

81. The paper on commercial enzyme preparations presented by the delegate of the Federal Republic of Germany was amended slightly, and the Committee recommended that the amended version should be sent to governments for comments by the FAO Secretariat.

NON-NUTRITIVE SWEETENERS

82. The Committee received a report that, in response to the urgent request of last year, the Joint Expert Committee on Food Additives had examined cyclamate and saccharin and had designated an acceptable daily intake figure for them.

ACIDS, BUFFERS, BASES and SEQUESTRANTS

83. The Committee received a note prepared by the delegation of the United Kingdom on the subject of acids, buffers, bases and sequestrants. It was recommended that this should be circulated to governments for comments, it being drawn to their attention that replies should be made to the questions appearing at the end of the text, and these replies should be sent directly to the author country, the U.K, which will draw up on that basis a provisional positive list for presentation at the next session of this Committee.

ANTI-CAKING AGENTS

84. The Committee received a report prepared by the delegation of the U.S.A. on the subject of anticaking agents, and recommended that the complete list appearing in Appendix XII should be sent to governments for comments. Governments are informed that sending this list out does not constitute approval by the Committee of this list. Governments are requested to ensure that the list is completed by the addition of any further anticaking agents or additional uses or other levels of use, and to comment upon this list.

ANTIBIOTICS AS FOOD PRESERVATIVES

85. The Committee received the report by the delegate of Canada on the use of antibiotics as food preservatives. The Committee recommended that no further action should "be taken on the use of antibiotics as food preservatives until such time as the Joint FAO/WHO Expert Committee on Food Additives has studied these compounds. The Committee again suggested that the Joint FAO/WHO Expert Committee on Food Additives should examine the antibiotics used as food preservatives as soon as possible.

FOOD ADDITIVE STANDARDS

86. The Committee considered the recommendations that food additives specifications should be sent out as food additives standards through the procedure of the Codex Alimentarius, and recommended at this stage that they be so considered and should be sent to governments for comments which should come back to this Committee for its consideration.

87. In the drafting of food additive standards, the Committee would have regard to the legislative requirements in the E.E.C. concerning preservatives, antioxidants and colours, the Food Chemical Codex which is used in the U.S.A., the Japanese standards of food additives and any other official compilations.

88. It was agreed, in the discussion of the lay-out of the standards, that the heading” permitted uses" should be eliminated and a new heading under definition should appear entitled” functional use in foods". Under the heading” toxicological evaluation" should appear only a reference to the location in the reports and monographs of the Joint Expert Committee on Food Additives.

89. Food Additive Standards for all the substances which have been given acceptable daily intakes will be circulated for comments with a rider that

comments are sought only on these specifications as such and this does not imply any acceptance at this time of the substances as additives for use in foods.

90. In the discussion on these food additives standards, it was requested that special consideration be given to a critical evaluation of the methods of production of chemically modified natural substances and in particular harmfull by-products or impurities should be controlled by analytical methods and limited as much as necessary. Governments were asked to review these specifications in this light and in their comments to send any information on possible harmful impurities in the products. The possibility was also raised of inserting a description of the process as part of the standard and. the use of reference samples.

LISTING OF FOOD ADDITIVES

91. The Committee agreed that each of the author-countries for the various groups of food additives should prepare a list for presentation as a working paper prior to the next meeting of this Committee for consideration at that meeting. These lists are to be prepared in the format indicated in Appendix XIII.

ESTIMATION OF THE INTAKE OF FOOD ADDITIVES

92. The Committee had before it a paper on the problems of estimating the intake of food additives on an international basis. The paper described one way of utilizing existing data on the consumption of foods. The Committee considered an approach, given below, and charged the Secretariat of the Commission to prepare a document for the next session of this Committee assembling consumption figures for the foods relevant to the work of the Commission. In assembling such food consumption data the Committee asked the Secretariat to consider the following aspects:

(a) That these international food consumption data were for the purposes of the Codex Alimentarius.

(b) That consideration be given to regional variation of the food consumption pattern.

(c) That consideration be given to groups within societies, such as children, which may consume greater than average quantities of some foods. In this respect it was pointed out to the Committee that abnormally excessive consumption by a very small section of the community of some food items need not be considered on an international basis.

The approach to the estimation of food additives intake on an international level, mentioned above, is as follows: [a/]

(a) Determine the average consumption of food (in g/person/ day) in the country or region consuming the highest amount and use this as a basis of calculation.

(b) Obtain estimates of the intake of the food additive from all sources in individual countries (in mg/person/ day). In this respect it is necessary to know all the permitted uses of the food additive as well as the consumption of foods containing the food additives in individual countries.

(c) When considering whether the intake of an additive exceeds the acceptable daily intake on an international basis, it may be necessary to consider the intake on the national basis.

Proposed by the Secretariat of the Commission

The Committee considered that in view of the magnitude of the task which is involved in estimating food additive intake, a first step would be to consider the antimicrobials only at this time. The Committee requested governments to send detailed information to the Secretariat of the Commission on; the following aspects:

(a) A complete list of permitted antimicrobials.

(b) The levels of use and the foods in which the antimicrobials are permitted.

Governments, as well as Codex Commodity Committees, should send information on the following: [a/]

(c) Average consumption (in g/person/day of the foods in question and the food consumption of special groups, such as children, where appropriate.

(d) Actual residue levels where known.

(e) Other relevant information.

[a/] Chief, Joint FAO/WHO Food Standards Program, FAO, Rome

TOXIC TRACE ELEMENTS

95. After considerable discussion on the way in which toxic trace elements and other contaminants should be presented in Codex Commodity Standards, the Committee agreed that the only statement which should appear at this time should bet "Tolerance to be established by the Codex Committee on Food Additives". The Committee recommended that consideration be given to the accumulation of data on the levels of these contaminants in food, especially on the part of Commodity Committees, and recommended that the Expert Committee consider the toxicology of the substances again as soon as new data become available.

JOINT FAO/WHO EXPERT COMMITTEE ON FOOD ADDITIVES

96. A number of items, as recorded in the report of the Codex Committee on Food Additives (Alinorm/66/12: CCFA/66/I), have been referred to the Joint FAO/WHO Expert Committee on Food Additives for consideration. The Joint Expert Committee in its Tenth Report [WHO (1967) Techn. Report Series (373)] has recorded its conclusions on these items. It has provisionally allocated "Maximum acceptable daily load" for some trace elements. It has reaffirmed the validity of the method, described in its second and sixth reports, of calculating the daily intake of a food additive based on the levels arising from good technological practice, average consumption of foods containing the additive and average body-weight. As regards ascorbic acid, the Committee has not altered the previously established acceptable daily intake figure, as no new data was available. It has not examined the safety of this antioxidant as a flour treatment agent. Acceptable daily intake figures have been established for canthaxanthine, beta-carotene, beta-apo-8’-carotenal and methyl and ethyl esters of beta-apo-8’-carotenoio acid. Furthermore, Indanthrene Blue RS and Quinoline Yellow have been placed in category CI The flavouring substances and the non-nutritive sweeteners have been considered by the Joint Expert Committee at its eleventh session.

97. Tentative priorities for the Joint FAO/WHO Expert Committee on Food Additives were allocated as follows: (The first three main groups should be considered as soon as possible)

(a) Solvents, anti-caking agents, other emulsifiers, enzymes and substances temporarily endorsed if not covered below.

(b) Antibiotics used in food and animal feedstuffs, and other chemotherapeutic agents leaving residues in meat and meat products.

(c) Hormones, other growth stimulators.

(d) Trace elements, smoke and toxic substances occurring naturally in food (aflatoxin, gossypol).

(e) Packaging materials.

(f) Processing acids.

(g) Flavouring substances.

98. The Committee expressed its gratitude to the Joint Expert Committee on Food Additives for the essential information which it provided to this Committee, The Committee recommended to the Commission that it considers carefully the critical dependence of this Committee upon the work of the Joint Expert Committee on Food Additives, It was also noted that the Expert Committee in turn was dependant on the toxicological data provided to it, and governments were requested to consider means of supporting toxicological research which would fulfill, in respect of food additives, the needs of the Codex Alimentarius in developing international food standards.

PACKAGING MATERIALS

99. It was recognized that before packaging materials were considered a large amount of preliminary work would have to be done in compiling lists and evaluation migration data so that a minimum of materials would have to be dealt with by the Joint Expert Committee on Food Additives.

IRRADIATION OF FOODS

100. The question of irradiation of foods as a controlled process for preservation of foods was raised, and the Commission was requested to indicate whether this was a problem for this Committee.

DATE AND PLACE OF NEXT MEETING

101. The next meeting of this Committee will probably be convenient from 11-15 March 1968 in The Hague, subject to the approval of the Commission.

APPENDIX I

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Lady participant

APPENDIX II

Margarine

ADDITIVE	MAXIMUM LEVEL	DECISION
Colours		
Carotenes, other carotenoids	Not limited	Endorsed (a)
Annatto	Not limited	Temporarily endorsed, pending toxicological evaluation (a)
Curcumin	Not limited	Temporarily endorsed, pending toxicological evaluation (a)
Flavours		
Flavouring substances which occur naturally in foodstuffs and identical synthetic products	Not limited	Temporarily endorsed pending, toxicological evaluation (a)
Emulsifiers		
Lecithins and components of commercial lecithin as described in the Specifications in the Seventh Report of the Joint FAO/WHO Expert Committee on Food Additives	Not limited	Endorsed (see para 9)
Mono- and diglycerides of non-polymerized fatty acids of vegetable and animal origin	Not limited	Endorsed
Polyglycerol esters (partial) of non-polymerized or Non-oxidized fatty acids	Not limited	Endorsed (Reservations by FRG and France)
Partial and complete esters of mono- and diglycerides and acetic, lactic, citric, tartaric and acelytated tartaric acids	1.0%	Endorsed
Propylene glycol esters of non-polymerized fatty acids	2.0%	Endorsed (Reservation by FRG)
Sucrose-esters (including sucroseglycerides) of non-polymerized fatty acids	1.0%	Temporarily endorsed, pending toxicological evaluation (Reservation by FRG)

Sorbitan monostearate, sorbitan monopalmitate or sorbitan tristearate	1.0%	Endorsed (Reservations by FRG France and Switzerland)
Preservatives		
Sorbic acid and its Na, K and Ca salts	Separately or mixed expressed as acid 1000 mg/kg	Endorsed (Reservation by Switzerland)
Benzoic acid and its Na and K salts	Separately or mixed expressed as acid. 1000 mg/kg	Endorsed (see para 11) (Reservations by Denmark, FRG, France, Japan and Switzerland)
Antioxidants		
Gallates, propyl, octyl and dodecyl	Individually or in combination 100 mg/kg	Endorsed (Reservation by Poland)
BHA, BHT	Individually r in combination 100 mg/kg	Endorsed (Reservation by Poland)
Any combination of gallates with BHA and/or BHT	100 mg/kg	Endorsed (Reservation by Poland)
Natural and synthetic tocopherols	Not limited	Endorsed (Reservation by Poland)
Ascorbyl palmitate	200 mg/kg	Endorsed (Reservation by Poland)
Other Additives		
Citric, lactic and tartaric acids and their salts	Not limited	Endorsed
Sodium bicarbonate, sodium carbonate and sodium hydroxide (as pH correcting agents)	Not limited	Endorsed
Contaminants		
Iron	1.5 mg/kg	Endorsed
Copper	0.1 mg/kg	Endorsed
Lead	0.1 mg/kg	Endorsed
Arsenic	0.1 mg/kg	Endorsed

Notes

- ⌘ See draft provisional standard for margarine .(Appendix XIX, ALINORM 68/11)
- (a) Self-limiting by good manufacturing practice.

APPENDIX III

Sugars

ADDITIVE	MAXIMUM LEVEL	FOOD	DECISION
Sulphur dioxide	20 mg/kg	Dextrose monohydrate, Dextrose anhydrous, White sugar	Endorsed
	40 mg/kg	Glucose syrup, Dried glucose syrup, Soft brown sugars	Endorsed
	70 mg/kg	Plantation sugar	Endorsed
	150 mg/kg	Dried glucose syrup for the manufacture of sugar confectionery only	Endorsed
	400 mg/kg	Glucose syrup for manufacturing purposes	Endorsed (See para. 14)
Anti-caking agents			
Starch	5%	Powdered sugar	(a)
Magnesium carbonate	(b)	Powdered sugar	Endorsed
Tri calcium phosphate	(b)	Powdered sugar	Not endorsed pending toxicological evaluation (See para. 34.)
Magnesium tri-silicate	(b)	Powdered sugar	Not endorsed pending toxicological evaluation (See para.34)
Sodium, calcium, aluminium silicate	(b)	Powdered sugar	Not endorsed pending toxicological evaluation (See para. 34)
Calcium silicate	(b)	Powdered sugar	Not endorsed pending toxicological evaluation (See para. 34)
Dehydrated silica gel	(b)	Powdered sugar	Not endorsed pending toxicological evaluation (See para. 34)

Contaminants

Arsenic	1 mg/kg	Dextrose monohydrate, Dextrose anhydrous, Lactose, White sugar, Soft Sugar, Glucose syrup, Dried glucose syrup	Endorsed
Lead	2 mg/kg	Dextrose monohydrate, Dextrose anhydrous, Lactose, White sugar, Soft Sugar Glucose syrup Dried glucose syrup	Temporarily endorsed (see para 13)
Copper	2 mg/kg	Dextrose monohydrate, Dextrose anhydrous, Lactose, White sugar	Endorsed
Copper	5 mg/kg	Soft sugars, Glucose syrup, Dried glucose syrup	Endorsed

Notes

- See proposed standards for sugars. (ALINORM 68/21)

(a) Starch is not considered as a food additive, but as a food.

(b) When starch is not present, up to 1.5% singly or in toto.

APPENDIX IV

Processed Fruits and Vegetables

ADDITIVE	MAXIMUM LEVEL	FOOD	DECISION
Acidifying Agents			
Acetic, lactic and tartaric acids	Not limited	Canned tomatoes	Endorsed (see para 22)
Malic acid	Not limited	Canned tomatoes, applesauce	Endorsed (see para 22)
Citric	Not limited	Canned tomatoes, applesauce, sweet corn, grapefruit	Endorsed (see para 22)
Firming Agents			
Calcium chloride or other - calcium salts	Calcium derived from such salts not to exceed 0.035%	Canned tomatoes, grapefruit	Endorsed
Monosodium glutumate	Not limited	Canned green beans, asparagus , garden peas, mushrooms	Endorsed (See para. 21)
Vegetable gums, alginates, propylene glycol alginate	1% in products containing butter	Canned green beans, sweet corn, asparagus, garden peas, mushrooms	Temporarily endorsed pending toxicological evaluation (see para 17) (Reservation by Switzerland)
Modified starch			See para 36
Nisin	100 Reading units/g	Canned green beans garden peas, mushrooms	Not endorsed pending toxicological evaluation (see para 18)
Colours			
Wool Green BS (Green S), Tartrazine	100 mg/kg singly or in combination	Canned green beans	Temporarily endorsed (see para 19)
Erythrosine, Amaranth, Fast Green FCF, Tartrazine, Sunset Yellow FCF, Brilliant FCF, Indigotine	Not limited	Canned applesauce	Temporarily endorsed (a)

Yellow 2G	(b)	Canned garden peas	Not endorsed (See para. 38)
Wool Green BS (Green S), Tartrazine	(b)	Canned garden peas	Temporarily endorsed
Brilliant Black BN	Not limited	Canned mushrooms	Not endorsed (See para. 38)
Flavours			
Natural flavouring	Not limited	Canned peaches, applesauce	Temporarily endorsed pending toxicological evaluation (a)
Antioxidants			
Ascorbic acid	150 mg/kg	Canned applesauce	Endorsed
Isoascorbic acid	150 mg/kg	Canned applesauce	Endorsed (see para 16) (Reservations by Belgium, FRG and Switzerland)
Stannous chloride	25 mg/kg	Asparagus in glass containers	Not endorsed (See para. 37)

Notes

- See proposed standards for processed fruits and vegetables (ALINORM 68/20, Appendix II-VII)

(a) Self-limiting by good manufacturing practice.

(b) Individually 100 mg/kg; in combination 200 mg/kg.

APPENDIX V

Milk and Milk products

ADDITIVE	MAXIMUM LEVEL	FOOD	DECISION
Colours			
Carotene	Not limited	Butter	Endorsed (a)
Annato	Not limited	Butter	Temporarily endorsed (a) pending toxicological evaluation (see para 27)
Curcumin	Not limited	Butter	Temporarily endorsed (a) pending toxicological evaluation (see para 27)
Antioxidants			
(Gallates (BHT, BHA	200 mg/kg	Butter oil for manufacturing purposes	Postponed (See para. 24)
Other additives			
(Sodium and (Calcium salts (of : (hydrochloric (citric (carbonic (orthophosphoric (polyphosphoric (acids	O.2%o total	Evaporated milk, sweetened condensed milk	Endorsed (see para 26)
As above	0.5% total	Milk powder	Endorsed
Carrageenan	150 mg/kg	Evaporated milk	Not endorsed pending toxicological evaluation.(see para 27)
Sodium orthophosphate, Sodium carbonate Sodium bicarbonate Sodium hydroxide Calcium hydroxide	O.2% singly or in combination	Butter	Endorsed (see para 26) (Reservations by Denmark and France)

Notes

‡ See standards for milk and milk products *

(a) Self-limiting by good manufacturing practice.

* (Report of the Ninth Session of the Joint FAO/WHO Committee of Government Experts on Milk and Milk Products, SP 10/105 9th)

APPENDIX VI

Fruit juices

ADDITIVE	MAXIMUM LEVEL	FOOD	DECISION
Arsenic	0.2 mg/kg	Apricot, peach, pear nectars (a	Endorsed
		Apple, orange, grape, tomato, lemon and grapefruit juices (a	Endorsed
Copper	5 mg/kg	Apple, orange, grape, lemon and grapefruit juices (a	Endorsed (Reservation by Poland)
Lead	0.3 mg/kg	as for arsenic	Temporarily endorsed
Tin	250 mg/kg (in tinned containers)	as for arsenic	Not endorsed (see para 29)
Zinc	5 mg/kg	Apple, orange, lemon and grapefruit juices (a	Endorsed
Sulphur dioxide	20 mg/kg (b (c (Total SO_2)	Apple juice (a	Endorsed (see para 31)
Sulphur dioxide	50 mg/kg (b (c (Total SO_2)	Grape juice (a	Endorsed (see para 31)
Citric acid	Not limited	Apricot, peach and pear nectars (a	Endorsed
Malic acid	Not limited	as for citric acid	Endorsed
Ascorbic acid	Not limited (as an anti-oxidant)	Apricot, peach and pear nectars (a Apple and grape juices (a	Endorsed

(The term "Vitamin C" should not appear on the label. This does not refer to vitaminized juices intended for special purposes).

Notes

- ⌘ See proposed standards for fruit juices (ALINORM 68/14)
- (a ready for use and preserved exclusively by physical means.
- (b Sources of sulphur dioxide must conform to the specifications for identity and purity of food additives established by the Joint FAO/WHO Expert Committee on Food Additives.
- (c After an interval of 3 years from the date of publication of this standard for acceptance by governments, this figure will be reduced to 10 mg/kg.

APPENDIX VII

Fats and Oils

(excluding Margarine)

ADDITIVE	MAXIMUM LEVEL	FOOD	DECISION
Antioxidants			
Gallates, propyl, octyl, dodecyl	100 mg/kg Individually or in combination	Edible fats and oils	Endorsed (Reservations by FRG, France, Poland and Switzerland for named oils)
BHA, BHT	200 mg/kg Individually or in combination	Edible fats and oils	Endorsed (Reservations by FRG, France, Poland and Switzerland for named oils)
Any combination of gallates with BHA or BHT or both	200 mg/kg but the amount of gallates not to exceed 100 mg/kg	Edible fats and oils	Endorsed (Reservations by FRG, France, Poland and Switzerland for named oils)
Natural and Synthetic tocopherols	Not limited	Edible fats and oils	Endorsed
Ascorbyl palmitate	200 mg/kg	Edible fats and oils	Endorsed
NDGA	100 mg/kg	Lard, rendered pork fat, premier jus, edible tallow	Not endorsed, pending toxicological evaluation (sea para 46)
Resin guai ac	1000 mg/kg	Lard, rendered pork fat, premier jus, edible tallow	Not endorsed pending toxicological evaluation (see para 46)
Synergists			
Citric acid	Not limited	Edible fats and oils	Endorsed
Monoisopropyl citrate	100 mg/kg	Lard, rendered pork fat, premier jus, edible tallow	Endorsed (see para 47) (Reservations by FRG, France, Poland, Switzerland and U.K.)
Monoglyceride citrate	100 mg/kg	Lard, rendered pork fat, premier jus, edible tallow	Endorsed (see para 49) (Reservation by U.K.)

Any combination of mono-isopropyl citrate and monoglyceride citrate	not to exceed a total of 100 mg/kg	Lard, rendered pork fat, premier jus, edible tallow	Endorsed (Reservations by FRG, France, Poland, Switzerland and U.K.)
Phosphoric acid	100 mg/kg	Lard, rendered pork fat, premier jus, edible tallow	Not endorsed (See para. 48)
<u>Colours</u>			
Carotene	Not limited	Edible fats and oils not specifically named	Endorsed (a)(see para 41)
Annatto	Not limited	Edible fats and oils not specifically named	Temporarily endorsed, pending toxicological evaluation (a) (see para 41)
<u>Flavours</u>			
Natural and identical synthetic flavours	Not limited	Edible fats and oils not specifically named	Temporarily endorsed, pending toxicological evaluation (a)
<u>Emulsifiers</u> (c)			
Mono- and di-glycerides of fatty acids	5% by weight	Edible fats and oils	Endorsed
Mono- and di-glycerides of fatty acids esterified with the following acids: acetic tartaric citric acetyltartaric lactic and their sodium and calcium salts	(b)	Edible fats and oils	Endorsed
As above with acetyl citric orthophosphoric and their sodium and calcium salts	(b)	Edible fats and oils	Not endorsed/ pending toxicological evaluation
Lecithins and components of commercial lecithin as described in the specifications in the Seventh Report of the	(b)	Edible fats and oils	Endorsed

Joint FAO/WHO Expert Committee on Food Additives			
Polyglycerol esters of fatty acids	(b)	Edible fats and oils	Endorsed
Polyglycerol esters of interesterified ricinoleic acid	(b)	Edible fats and oils	Not endorsed pending toxicological evaluation
Esters of fatty acids with polyalcohols other than glycerol: Sorbitan monopalmitate Sorbitan monostearate Sorbitan tristearate (commercially known under the names Span 40, Span 60 and Span 65)	(b)	Edible fats and oils	Endorsed (see para 42) (Reservation by Switzerland)
Ester of 1,2-propyleneglycol with one fatty acid radical only	(b)	Edible fats and oils	Endorsed
Esters of mono- and disaccharides with fatty acids (Sucroglycerides)	(b)	Edible fats and oils	Temporarily endorsed, pending toxicological evaluation
Stearyl lactylic acid and its calcium salt	(b)	Edible fats and oils	Not endorsed Pending toxicological evaluation
<u>Anti-foaming Agent</u>			
Dimethyl polysiloxane	10 mg/kg	Edible fats and oils not specifically named used for frying	Not endorsed (see para 43) pending toxicological evaluation
<u>Contaminants</u>			
Iron	1.5 mg/kg	Edible fats and oils	Endorsed
Copper	0.4 mg/kg	Edible fats and oils (virgin)	Endorsed

Copper	0.1 mg/kg	Edible fats and oils (refined)	Endorsed
Copper	0.4 mg/kg	Lard, rendered pork fat, premier jus, edible tallow	Endorsed
Lead	0.1 mg/kg	Edible fats and oils	Endorsed
Arsenic	0.1 mg/kg	Edible fats and oils	Endorsed

Notes

- See proposed standards for fats oils (ALINORM 68/11)

(a) Self-limiting by good manufacturing practice
(b) Individually or in combination with the smulsifiers so marked up to a maximum level of 2% by weight
(c) Only in fats used for baking and cooking fats

APPENDIX VIII

Cocoa Products and Chocolate

ADDITIVE	MAXIMUM LEVEL	FOOD	DECISION
Ammonium carbonate Ammonium hydroxide Magnesium carbonate Magnesium hydroxide Potassium carbonate Potassium hydroxide	The equivalent of an 5% anhydrous potassium carbonate calculated on the fat-free dry matter	Cocoa Beans, Cocoa Nib, Cocoa Mass, Cocoa Press Cake, Low-fat Cocoa Powder, Sweetened Cocoa Powder, Sweetened low-fat Cocoa Powder, Cocoa Powder mixture	Endorsed
Citric acid Tartaric acid	0.5%	as above	Endorsed
Copper	0.4 mg/kg	Cocoa butter	Endorsed
Arsenic	0.1 mg/kg	Cocoa butter	Endorsed
Lead	0.1 mg/kg	Cocoa butter	Endorsed
Iron	0.5 mg/kg	Cocoa butter	Endorsed
Tricalcium phosphate Calcium phosphate Magnesium phosphate Magnesium carbonate Silica gel Talc Calcium silicate Sodium calcium silicate aluminate	1.5%	Cocoa Powder Mixture	Not endorsed (See para. 53)
Vanillin Ethyl vanillin	In small amounts for flavour adjustment	Chocolate and cocoa products	Endorsed
Lecithin	0.5 % of the acetone insoluble component of lecithin	Chocolate	Endorsed
Lecithin	1% of the acetone insoluble component of lecithin	Cocoa powder and products made there from	Endorsed

Mono- and diglycerides of edible fatty acids	Not limited	Chocolate products	Endorsed

Notes

- See proposed standards for cocoa products and chocolate. (ALINORM 68/10)

APPENDIX IX

Cheese

ADDITIVE	MAXIMUM LEVEL	FOOD	DECISION
Calcium chloride	200 mg/l or kg of milk	Cheese	Endorsed
Annatto	Not limited	Cheese	Temporarily endorsed pending toxicological evaluation
Carotene	Not limited	Cheese	Endorsed (see para 56)
Chlorophylls (including copper chlorophylls)	Not limited	Cheese	Not endorsed, pending toxicological evaluation (see para 56)
Nitrate (sodium or potassium salt)	200 mg/l or kg of milk	Cheese in which nitrates are used (Danablu, Danbo, Edam, Gouda, Havarti, Garlsborg, Limburger, Nökkel Nordbe, Norwegia, Samsoe, Svecia, Steinbuscher, Tilsitor) and do not include non-matured cheeses and cheeses of the cheddar type.	Not endorsed (see para 57)
Potassium chlorate	100 mg/l or kg of milk	Propionic fermentation Cheeses	Not endorsed (see para 58)
Sorbic acid and its salts (as surface treatment)	0.3%	Cheese	Endorsed (see para. 59)
"	0.1%	Whey cheeses	Endorsed
Propionic acid and its salts (as surface treatments)	0.39%	Fresh cheese	Endorsed (See para. 59)
Nisin	500 Reading units/g	Fresh cheese	Not endorsed (see para 60)

Pimaricin	500 mg/kg in the solution used as dip for surface treatment	Fresh cheese	Not endorsed (see para 60)
Alginates and vegetable gums	0.5%	Fresh and soft cheese	Endorsed
Lecithin	0.5%	Soft and "quark" type cheeses	Endorsed
Smoke and condensed smoke		Various cheeses and soft cheese products	Not endorsed (see para 61)

Note

- See standards for milk and milk products (see Appendix V)

APPENDIX X

List of flour treatment agents

referred to the Codex Alimentarius Commission
at Step 5 of the Procedure for the Elaboration of Standards

ADDITIVES	ACCEPTABLE LEVEL OP TREATMENT (ppm)	
Ascorbic Acid	0 to 200	
Azodicarbonomide	0 to 45	
Benzoyl peroxide	0 to 40	40 to 75 for special purpose (e.g. certain biscuit flours)
Chloride dioxide	0 to 30	30 to 75 for special purposes (as above)
Potassium bromate	0 to 20	20 to 75 for special purposes (as above)
Sulphur dioxide	The level of treatment of flour for the manufacture of biscuits, should be in conformity with good technological practice, leaving no residue of sulphur dioxide in the final product.	

APPENDIX XI

A provisional list of permitted food colours [1/]

(Sent to governments for comment at Step 3 of the Procedure for the Elaboration of Codex Standards)

[1/] See para 79

Category A

Colours which have been found acceptable for use in food and which have been given acceptable daily intakes for man, by the Joint FAO/WHO Expert Committee on Food Additives.

Amaranth	Colour index	16185
Canthaxanthine		.....
Beta-Apo-8 -Carotenal		
Beta-Carotene	Colour index	75130
Methyl ester of Beta-Apo-8-Carotenoic Acid		.....
Ethyl ester of Beta-Apo-8-Carotenoic Acid		.....
Sunset Yellow FCF	Colour index	15985
Tartrazine	Colour index	19140

Category B (and C I) [1/]

[1/] See para 79

Colours for which the available data are not entirely sufficient to the requirements for Category A, but which have been suggested by the Codex Committee on Food Additives for inclusion in this provisional list on a temporary basis. These colours will be re-evaluated by the Joint Expert Committee on Food Additives as additional data become available. Those colours for which no ADI's are established in five (four) years will no longer appear on this list.

Brilliant Blue FCF	Colour index	42090
Citrus Red No. 2	Colour index	12156
Erythrosine	Colour index	45430
Past Green FCF	Colour index	42053
Indanthrene Blue RS	Colour index	69800
Indigotine	Colour index	73015
Orange I	Colour index	14600
Patent Blue V	Colour index	42051
Ponceau 4R	Colour index	16255
Quercetin and Quercitron	Colour index	75670
Quinoline Yellow	Colour index	47005
Titanium Dioxide	Colour index	77891
Wool Green BS	Colour index	44090

APPENDIX XII

List of Anticaking Agents [1/]

	Anti-Caking Agent	Food Product Restriction	Maximum Tolerances
1.	Sodium silico aluminate, hydrate	None	2.0 %
2.	Calcium silico aluminate, hydrate	Table salt	2.0 %
3	Sodium calcium silico aluminate, hydrate	None	2.0 %
4.	Calcium silicates	Table salt and salt substitutes	2.0 %
		Animal feeds	2.0 %
		Baking powder	5.0 %
5.	Magnesium silicates (Talc)	Table salt	2.0 %
		Vanilla powder	None
6.	Aluminium silicate monohydrate (Pyrophyllite)	In complete animal feed	2.0 %
7.	Silicon dioxide	None	2.0 %
		Animal feed or feed components	
8.	Calcium carbonate	None	G.M.P.[2/]
9.	Magnesium carbonate	None	G.M.P.
10.	Magnesium oxide	None	G.H.P.
11.	Calcium phosphate, ortho, mono, di, tri	None	G.M.P.
12.	Potassium ferrocyanide decahydrate	Salt	0.005 %
		Fine salt, for human use and animal feed	0.0013%
13.	Iron ammonium citrate	Animal feed	0.0025%
14.	Terpene resins	Ascorbic acid powder	7.0. %
15.	Fatty acid ester salts	None	G.M.P.
16.	Polythylene glycol	Sodium nitrite	G.M.P.
17.	Myristic acid and its sodium and potassium salt	In baking aids	1 %
18.	Sodium palmitate and potassium palmitate	In baking aids	1 %
19.	Stearic acid and its sodium, potassium, calcium and	None	G.M.P.

	magnesium salt		
20.	Calcium ferrocyanide	Salt	0.002%
21.	Silicic acid, colloidal	Table salt	1.0 %
22.	Magnesium silico Aluminate		

[1/] See para 84

[2/] Good manufacturing practice

APPENDIX XIII

Format for basic lists of classes of food additives [1/]

"Codex Committee on Food Additives CCFA/68/-"

(Class of Food Additive)

e.g. "Antimicrobial Preservatives"

[1/] See para 91

I Acceptance by Governments

(No entries in any category as yet)

II Endorsed by the Codex Committee on Food Additives

(e.g. Sulphur dioxide Dextrose monohydrate 20 mg/kg)

III Temporarily endorsed by the C.C.F.A. pending further Toxicological Evaluation
(no entries here)

IV Under Consideration in the C.C.F.A. pending Government Comments and/or Toxicological Evaluation

e.g. Nitrates of potassium and sodium	Cheeses	o.2 g/kg, milk used to make cheese

V Proposed for consideration by the C.C.F.A.

(e.g. Diethylpyrocarbonate	Beverages	300 mg/kg) maximum

APPENDIX XIV

Items referred again to the Joint FAO/WHO Expert Committee on Food Additives for re-evaluation

Nitrates and Nitrites

a. Possible formation of nitrosamine
b. Potential risk to babies with respect to formation of methemoglobin

Sulphur dioxide - with respect to its bound form in foods, including wine.

Vegetable gums, carrageenan

Propylene glycol alginate

Wool Green BS

Stearyl lactylic acid and its calcium salt

Sucrose esters of non-polymerized fatty acids.

Tin

APPENDIX XV

New items to be referred to the Joint FAO/WHO Expert Committee on Food Additives

Iso-amyl gallate

Ethyl protocatechuate

Tocopherol esters ----------

Acetylcitric acid

Polyglycerol esters of interesterified ricinoleic acid

Hydropropyl cellulose ----------

Potassium chlorate ----------

Dimethyl polysiloxane ----------

Tricalcium phosphate

Magnesium phosphate

Magnesium carbonate

Magnesium trisilicate

Sodium calcium aluminium silicate

Dehydrated silica gel ----------

Nisin

Pimaricin ----------

Aflatoxin

Gossypol ----------

Smoke ----------

Solvent residues ----------

Interaction of food additives of the same functional class, but of different chemical groups.