

codex alimentarius commission

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ALINORM 83/23

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION

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REPORT OF THE THIRTEENTH SESSION OF THE CODEX COMMITTEE ON

METHODS OF ANALYSIS AND SAMPLING

Budapest, 29 November - 3 December 1982

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INTRODUCTION

1. The Codex Committee on Methods of Analysis and Sampling held its Thirteenth Session from 29 November to 3 December 1982 in Budapest, by courtesy of the Government of Hungary. The Session was opened by Dr. K. Sütö, President of the Hungarian National Codex Committee and Vice-President of the Hungarian Office for Standardization who welcomed the participants.
2. The Committee was chaired by Dr. R. Lásztity, University Professor, Technical University, Budapest.
3. The Session was attended by delegates from 26 countries and observers from 9 International Organizations. The list of participants, including officers from FAO and UN/ECE, is attached as Appendix I to this Report.

ADOPTION OF THE AGENDA

4. The Committee adopted the provisional agenda without any change, but decided to set up two Working Groups to deal with sampling for net weight and for the endorsement of methods of analysis in Codex standards and for the consideration of the general methods for the determination of contaminants. The membership of the two Working Groups is as follows:

Working Group on Endorsement (WG 1)

Australia	AOAC
Canada (coordinator)	IDF
Czechoslovakia	ISO
Finland	NMKL
France	
Hungary	
The Netherlands	
Switzerland	
USA	

Working Group on Net Content (WG 2)

Federal Republic of Germany
Finland
France
Greece
Hungary
The Netherlands
Norway
Switzerland
USA (coordinator)
EEC

APPOINTMENT OF RAPPORTEURS

5. The Committee appointed Mme. C. Soulés (France), Mme. N. Blaize (France) and Mr. R. Sawyer (UK) as rapporteurs for the Session.

MATTERS OF INTEREST TO THE COMMITTEE

6. The Committee received a verbal report (see also Room Doc.3) from the Secretariat on matters arising from the 14th Session of the Commission and from various Codex Sessions. The following represents the conclusions of the Committee:

(a) 14th Session of the Commission

7. The Committee noted that the Commission had endorsed the view of the Codex Committee on General Principles that there was no need to establish Codex methods of analysis for parameters not included in Codex standards (para 171, ALINORM 81/39). The delegation of Austria expressed its opinion that methods for the determination of the composition of natural mineral waters were needed to check the type of water. In this

respect, the Committee noted that the Codex standard for natural mineral waters included an optional declaration of the composition of natural waters and that such a declaration represented a claim requiring verification by analysis. The delegation of the United Kingdom suggested that the standard might be amended in such a way as to necessitate a check of the composition of the water.

8. The Committee agreed with the conclusions of the Commission and noted the remarks made above by the delegations of Austria and of the United Kingdom.

9. The Committee also agreed that paras 277-281 of the Report of the Commission be referred to the appropriate agenda items.

(b) Various Codex Committees

Processed Fruits and Vegetables (ALINORM 83/20, para 25)

10. The Committee noted that the CCPFV was working on the question of the determination of drained weight for products containing soft fruit ingredients.

Food Additives (ALINORM 83/12, paras 184-187)

11. It was agreed that the question of defining compliance with Codex maximum levels for contaminants should be dealt with later. It was noted that the document under elaboration by the CCFA had been sent to Governments for comments and would, once finalized, be referred to the CCMAS for endorsement.

Fats and Oils (ALINORM 83/17, paras 13-14, 75-76)

12. The Committee noted that the CCFO had reviewed the various methods of analysis in the standards elaborated by it and that these were subject to endorsement. It was agreed that the report of the CCFO on this review (App. IX, ALINORM 83/17) should be considered by WG 1 .

Fruit Juices (ALINORM 83/14, paras 96-97)

13. The Committee noted that the Joint ECE/Codex Group on Fruit Juices was planning a review of all the methods of analysis included in Codex standards for fruit juices. It also had under consideration the introduction of a provision for total soluble solids content into the standards for products to which sugars were, or could, be added instead of a limit for sugar addition which was not enforceable.

Coordinating Committee for Europe (ALINORM 83/19)

14. The Committee was informed that the Coordinating Committee for Europe had surveyed methods of analysis for the various provisions included in the Codex standard for natural mineral waters with the assistance of Prof. Ninard (France).

Foods for Special Dietary Uses (ALINORM 83/26, paras 115-118)

15. The Committee noted that the above Committee had established a working group to review the methods of analysis included in the various standards for foods for special dietary uses. It noted that work on an HPLC method for vitamin A, a method to distinguish between cis- and trans- fatty acids, and a method for determination of gluten were under study.

Cereals, Pulses and Legumes (ALINORM 83/29)

16. The proposal of the above Committee concerning the development of methods of analysis for the various standards at Step 8 (wheat flour, maize) by a working group

consisting of AOAC, ISO and ICC was referred to the item dealing with the report of the Interagency Meeting (see para 93(c)).

Joint ECE/Codex Group of Experts on Standardization of Quick Frozen Foods (ALINORM 81/25)

(a) Report of Collaborative Study, Alcohol-insoluble Solids in Quick Frozen Corn

17 The Committee was informed that the Joint ECE/Codex Alimentarius Group of Experts on Standardization of Quick Frozen Foods had adjourned sine die, but had made arrangements for a collaborative study to be carried out on the proposed method for alcohol-insoluble solids (App. III, ALINORM 81/25). The report of the collaborative study (Conf. Room Doc. 2) was introduced by the Secretariat of UN/ECE.

18 The report recommended that the method should be studied in greater detail due to the poor results in reproducibility and that this study should be carried out by the Committee through its Inter-Agency cooperation with AOAC and ISO. The Committee referred the recommendation to the Working Group on Endorsement of Methods of Analysis (WG 1) for consideration.

19 The delegation of the United States welcomed the report and stated that the information presented was exactly of the nature required by the Working Group to enable it to make an intelligent assessment of the methods submitted for endorsement. The delegation of The Netherlands asked whether or not there were guidelines which would assist the Working Group in making its assessment. It was noted, in reply, that such guidelines would have to be set by the Working Group in light of its own accumulating experience.

20 The delegation of the United States also noted that computer programmes were available as an aid in the statistical evaluation of the data, but that these programmes required input of individual analytical results, not averages and standard deviations.

(b) Determination of Free Fatty Acid (FFA) Content in the fat of Quick Frozen French Fried Potatoes

21 The Joint ECE/Codex Alimentarius Group of Experts on Standardization of Quick Frozen Foods had elaborated a standard for Quick Frozen French Fried Potatoes which contains a provision for FFA of the fat or oil extracted from the product. Three methods which may be used for determining the FFA and documented in CX/QFF 80/7 (Agri/WP.1/G.E. 3/R.73) had been discussed by the Group of Experts at its 13th Session. This Group had agreed that a single complete method should be drawn up and subjected to collaborative testing, using as a basis the methods submitted by the European Union of Potato Industries. The methods should incorporate the extraction procedure of method (i) and the titration step of method (iv).

22 The Joint ECE/Codex Group of Experts had adjourned sine die and the Commission, at its 14th Session had agreed that further elaboration of the method and testing for its reproducibility should be taken over by the CCMAS.

23 The Committee noted that FFA is an index of the quality of oil used for frying the quick frozen potatoes and felt the need to elaborate a method for determining FFA which could also be used as a general method for determining FFA in other foods. The Committee was reminded of an earlier decision of the Commission not to proceed with the elaboration of methods of analysis and their collaborative testing but to entrust such work to International Organizations active in the field.

24 The representative of ISO informed the Committee of the informal discussion that took place on the subject at the Inter-Agency Meeting held prior to the present Session of the CCMAS and that IUPAC had been requested to study the question.

25 The delegate from Australia suggested that the subject be referred to the Working Group on Endorsement which might then suggest a single suitable method to be tested for repeatability and reproducibility.

ACCEPTANCE OF CODEX METHODS OF ANALYSIS

26. The Committee had before it a working paper prepared by the Codex Secretariat (CX/MAS 82/3) on the question of obligation falling on Governments in accepting Codex Standards containing methods of analysis. The paper of the Secretariat proposed that defining methods (Type 1) should be subject to the acceptance procedures of the Codex. This did not mean that other methods could not be used in normal food control, provided such methods were calibrated against the Codex defining method. As regards Codex reference methods (Type II) and alternative approved methods (Type III) these should only be advisory. Codex tentative methods (Type IV) should not be included in Codex standards until they had been found to comply with the Codex selection criteria.

Type I and IV methods

27. Following discussion, the Committee adopted the recommendation of the Secretariat that Codex defining methods included in Codex standards should be subject to acceptance by Governments, since they form an integral part of the standard. It also agreed that Type IV methods should not be included in Codex standards (see App. II to this Report).

Type II and III Methods

28. Opinion was divided on whether Codex Reference methods should be obligatory for use in disputes or whether they should be only advisory as recommended by the Secretariat. The delegation of the USA, supported by the delegation of Australia and, in principle, by the delegation of the Federal Republic of Germany were in favour of Codex reference methods being subject to acceptance in cases of disputes involving food moving in international trade. They also held the view that the existence of internationally agreed methods would serve to reduce dispute involving analysis. The delegations of Norway, The Netherlands and Hungary preferred advisory Codex reference methods. The delegation of the Republic of Korea suggested that the question of the status of Codex reference methods of analysis should be kept open so that Governments could study the implications before reaching final conclusions. The same view was expressed by the representative of the EEC. The Secretariat was of the view that there might be difficulties in expecting Governments to assign an obligatory status to Codex reference methods for a variety of reasons such as the availability of equipment. The delegation of the United Kingdom expressed the opinion that the availability of equipment should not play a role in the case of statutory methods. As regards the application of Codex reference methods, the Committee noted that any obligation to use them should only apply to foods moving in international trade, i.e. at the point of import.

29. The Committee decided that its conclusions regarding Codex defining methods and tentative methods should be referred to the Commission. As regards Codex methods Types II and III, their status, vis-à-vis the Codex acceptance procedure should be reconsidered at the next session, in the light of comments received on the recommendations of the Secretariat as contained in Appendix II to this Report.

CONSIDERATION OF THE NEED FOR CONFIRMATORY TESTS IN SELECTING CODEX METHODS OF ANALYSIS

30 The attention of the Committee was drawn to paragraph 8 of its previous report (ALINORM 81/23) which referred to the opinion of the Committee on Pesticide Residues that the Codex Criteria for the Selection of Methods of Analysis (see Procedural Manual of the Commission, 5th Ed.,) did not place sufficient emphasis on confirmatory tests.

31 The delegation of Australia stated that this was a particular problem in the analysis for pesticide residues and in other areas where very small concentrations of material were to be determined. In gas chromatography, for example, there was a need to confirm individual peaks. However, the delegation was of the opinion that this was a part of the method itself and it was up to the analyst to ensure the correct operation of the method.

32 The delegation of the United States agreed that this was of particular importance in residue work but that it was not at all relevant to defining (Type I) methods. The delegation noted that "specificity" was the first of the general criteria for the selection of methods of analysis listed in the Procedural Manual (p. 78, 5th Ed.). In most cases, the Type II, or "reference", method chosen would be one with appropriate specificity.

33 The Committee agreed that the need for the consideration of confirmatory tests seemed to be covered by the selection criterion "specificity", but also agreed to return to this subject when methods which required such tests were submitted for endorsement.

34 The delegation of Australia expressed the opinion that the Committee should also have the authority to endorse methods of analysis for pesticide residues, noting that the decision to exempt these methods from endorsement dated from an Executive Committee meeting of 19 68.

CONSIDERATION OF LIMITS OF DETERMINATION

35 The Committee supported the view of the delegation of Czechoslovakia that the "limit of determination" should be considered as one of the criteria for the selection of Codex methods, particularly those for quantitative trace analysis. It was noted that this was different from and more important than the "limit of detection". It was also noted that the use of the term "limit of detection" was the cause of some misunderstanding in the legal interpretation of test results and that it was not possible to measure reliably in the area of the limit of detection.

36 It was agreed to request the opinion of Governments on this matter and to discuss it at the next session together with an appropriate definition of "limit of determination".

37 The delegation of the United States noted that the matter had been briefly discussed at a conference on collaborative studies held in Helsinki in 1981 and that it would be an item for discussion at a similar conference to be held in October 1984 in Washington, D.C., in association with the centenary session of the AOAC.

REPORT ON PROGRESS IN THE REVIEW OF METHODS OF ANALYSIS IN CODEX COMMODITY STANDARDS

38. The Secretariat informed the Committee of the progress made by the various Codex Commodity Committees in their review of methods of analysis. A summary report was contained in Conference Room Document No. 4.

39. It was noted that among those Committees which had begun, or were making arrangements for a review of methods, were the Committees on Processed Fruits and Vegetables, Fats and Oils (review completed), Fruit Juices and Foods for Special Dietary Uses. The Committee on Sugars, through its technical secretariat (United Kingdom) was undertaking a review in cooperation with ICUMSA and ISO. The Committee on Processed Meat and Poultry Products had agreed to undertake its review at a future session. It was noted that the Committee on Fish and Fishery Products had not undertaken such a review, but that for the most part the methods included in its standards were simple quality inspection procedures. The delegation of Switzerland, speaking as technical secretariat of the Committee on Cocoa Products and Chocolate, stated that the methods were being reviewed in association with IOCC and AOAC, but expressed the opinion that most of the methods were still valid and that up-dating of the references and determination of the "type" should be all that would be required.

40. The delegation of Norway asked when it would be possible to have a completed list of methods, their "type" and state of endorsement, so that Governments would be able to clarify their positions with regard to acceptance. The secretariat stated that such a list was under preparation but that it would take some time to complete. It appeared that the first group of methods presented for endorsement by the Committee was that for methods for fats and oils (see Appendix IX, ALINORM 83/17).

REPORT OF THE WORKING GROUP ON ENDORSEMENT OF ANALYTICAL METHODS

41 The Committee had before it a draft report of the Ad Hoc Working Group which was introduced by the Chairman, Mr. J.P. Barrette (Canada) who pointed out that the Group had been given three main tasks, namely: (a) to consider the comments on the general methods for the determination of metallic contaminants (CX/MAS 8 2/4) ; (b) to endorse methods of analysis in draft Codex commodity standards (CX/MAS 82/5 ADD.1, 2, 3) and (c) to advise the Committee on the procedure to be adopted with regard to methods referred by Codex Committees which had adjourned sine die. In this case, methods for "alcohol insoluble solids" in quick frozen corn-on-the-cob and quick frozen whole kernel corn and free fatty acid content of quick frozen French fried potatoes needed further study.

42 The Chairman of the Working Group stressed that in this review particular attention had been paid to the applicability of methods to the Codex standards concerned since many of the comments had addressed themselves to the wider application of general methods and that this comment had been specifically made in the preamble to the report.

43 The Committee discussed the report in detail and made a number of editorial amendments to the text, this revision is reproduced fully in Appendix V to this Report. The Committee agreed with the conclusions of the Working Group, except for the items identified below:

General Methods for Determination of Metallic Contaminants

44. The delegate of Norway raised the question of the use of the term "metallic contaminants" in the title of the document CX/MAS 82/4. He pointed out that a number of elements considered as trace levels were naturally present and were not contaminants of the foods concerned. He suggested that the title be changed to clarify this position. The Committee agreed in principle with the point made but agreed that, for the time

being, the title of the document should remain unchanged, since a change of title might cause further confusion.

45. The delegate of Norway also asked for clearer information on the methods which were being endorsed, since the references to the most recent edition of the AOAC methods book gave a false impression on the extent to which the methods being considered were new methods. The delegate of the United States replied that the citation was for convenience of bibliography rather than as a guide to the age of the method, relevant information on which could be obtained from the references in the text.

Reference Method for Lead, AOAC (1980) XIII 25.061-067

46. The delegation of the Federal Republic of Germany was not in favour of the use of the method generally and reserved its position in the light of the Committee advancing the method in the Codex Procedure to Step 8. The delegation of the United States pointed out that substantive evidence was necessary to support opinions on methods and in the absence of evidence to the contrary the Committee could do no more than accept the decision of the Working Group.

Draft Standard for Fat Spreads/Spreadable Fats

Determination of Vitamin E

47. The attention of the Committee was drawn to the fact that the draft standard for fat spreads/spreadable fats contained both a provision for Vitamin E and a provision for the use of tocopherols as antioxidants. The Committee noted that the method of analysis provision required a method for Vitamin E content and, in this circumstance, agreed with the recommendation of the Working Group that the method be endorsed as Type IV.

Proposed Draft Standard for Guava Nectar

Determination of Iron and Sulphur Dioxide

48. The delegation of the United Kingdom queried the Type II status of these methods. The Chairman of the Working Group pointed out that all the previous standards elaborated by the Committee on Fruit Juices had contained these two methods and, in the circumstances, a consistency of treatment would be desirable. It was pointed out that the Committee on Fruit Juices was undertaking a review of all methods in its standards and that an up-dating of the methods would follow.

Draft Standard for White Chocolate/Cocoa Butter Confectionery

49. The delegation of the United Kingdom asked whether the method for total fat gave an adequate measure of the percentage of cocoa butter in the product. It was pointed out that the analysis of sterols provided a confirmatory test. A number of delegations thought that the method was inadequate. The Committee decided to postpone endorsement of the method.

Draft European Regional Standard for Vinegar

50. The delegation of the United Kingdom pointed out that the method for soluble solids in vinegar was under study and that some difficulty had been observed with the AOAC procedure. The delegation of the United States pointed out that the results obtained were influenced by the dimension and nature of equipment used. In view of the situation, special attention of the organizers of the United Kingdom collaborative study was drawn to these points (see also note 22 to Appendix V of this Report).

51. The delegation of Spain made the following statement:

"At its 13th Session, the Coordinating Committee for Europe agreed that Spain should carry out collaborative tests on the following methods of analysis for vinegar:

- (a) Alcohol residues (comparison of the OIV and AOAC methods);
- (b) Total dry matter (soluble solids) (comparison of the AOAC method with that proposed by the United Kingdom);
- (c) Sulphur dioxide (comparison of the iodometric titration method of the OIV with the modified Monier Method proposed by Switzerland);
- (d) L-ascorbic acid (comparison of the OIV method based on TLC with the AOAC method)".

The Committee noted this position.

Type of Information Required for Submission by the Codex Commodity Committees to CCMAS

52. During the discussion of the endorsement procedure, the Working Group had formed the opinion that a check list which identified the critical information necessary to evaluate methods would be of value both to the CCMAS and to Codex Commodity Committees. The Committee agreed that such a procedure would be useful but that further consideration was necessary. The delegation of the United States agreed to prepare a discussion paper in collaboration with the Secretariat for discussion at the next Session of the CCMAS. In the paper, attention would be paid to the development of appropriate criteria for acceptance of the statistical and other qualities of the method in relation to its application to a particular commodity. The Committee agreed that the text reproduced at Annex I to Appendix V of this Report was a useful first draft of such a checklist.

Adoption of the Report of the Working Group

53. The Chairman thanked the Chairman and members of the Working Group for their work and the production of a clear report which had greatly assisted the Committee in its discussions. With the exceptions noted above, the Committee adopted the report of the Working Group (see Appendix II to this Report).

PURPOSE AND STATUS OF CODEX METHODS OF SAMPLING AND GENERAL PRINCIPLES FOR THEIR SELECTION

54. The Committee had before it document CX/MAS 82/6 containing a summary of comments on the questionnaire on sampling (CX/MAS 82/2) and recommendations concerning Codex work on sampling. It also had before it document CX/MAS 82/7 which contained revised general principles for the establishment or selection of Codex sampling procedures. In view of the likely impact of decisions of a general nature on the discussion of detail, it agreed to discuss CX/MAS 82/7 ahead of the earlier documents.

- (a) General Principles for the Establishment or Selection of Codex Sampling Procedures (CX/MAS 82/7)

55. In introducing the above document, the delegation of the United Kingdom stressed the need to distinguish between three broad types of provisions requiring sampling procedures: (a) net weight; (b) commodity defects; and (c) compositional criteria. It was also necessary to clarify whether Codex sampling plans were subject to acceptance by Governments. During the discussion of the General Principles, the following comments and decisions were made:

Section 5 - Methods of Sampling of the General Principles

56 The Committee agreed to delete reference to US MIL STD. 414 in section 5(A) (c). The question was raised as to what type of sampling procedures would be applicable to organoleptic quality criteria. The opinion was expressed by delegations that either sampling plans for commodity defects or for compositional criteria would be applicable and that this would be dependent on the method of test used. The Secretariat pointed out that Commodity Committees would, in any event, indicate in their standards the type of sampling plan which would apply to the various organoleptic quality criteria.

57 The delegation of France queried the meaning of para 5(B)(e) dealing with the question of lots not complying with Codex standards. The Committee, after discussion, decided to delete this paragraph and to return at a later date to the question of whether Codex should discuss measures taken by Governments concerning lots failing to comply with Codex Standards.

58 Following the two amendments indicated above, the Committee adopted the General Principles (as given in Appendix IV to this Report) and decided to refer them to the Commission with a view to their incorporation in the Manual of the Commission (5th Edition). The delegation of the Republic of Korea was of the opinion that Governments should be given further opportunity to discuss the General Principles and reserved its position on the matter.

(b) Recommendations concerning Codex Work on Sampling

59. The Committee considered document CX/MAS 82/6 which was introduced by the delegation of the United Kingdom. The Committee noted that 13 countries had replied to the questionnaire. The document revealed that there were considerable differences in the approach to sampling, in the criteria for judging compliance and in action taken regarding produce found not to be in compliance with standards. The Committee noted the recommendations contained in the paper and discussed these individually.

Technical Procedures for Sample Taking

60. The Committee agreed that Codex should not elaborate physical procedures of sampling as these were adequately being dealt with by other International Organizations concerned with commodity sampling.

Sample Size in Relation to lots/consignments

61. The delegation of Hungary stressed that considerations of cost and the capacities of laboratories also influenced the size of the sample taken from a lot and suggested that this comment be added to recommendation 2. The delegations of Switzerland, The Netherlands and the USA supported the suggestion of the delegation of Hungary.

Criteria for Determining Compliance

62. As regards the criteria for lot acceptance included in Codex standards (e.g., AQL 6.5, average, all items to comply, etc.) the Committee agreed that these should continue to be the responsibility of Codex Commodity Committees.

Point of Enforcement

63. The Committee agreed with the recommendation of the Secretariat that Codex sampling procedures should cover food (consignments/lots) moving in international trade. In this connection, the point was made that sampling plans would be applicable to lots or consignments, from a statistical point of view, irrespective of whether foods moved in national or international trade or their destination.

Status of Codex Sampling Procedures

64 The Committee discussed whether Codex sampling procedures should be obligatory (i.e. subject to acceptance) or only advisory. There was general feeling that Codex sampling plans and procedures should be advisory. In this connection, the Secretariat stated that lot acceptance criteria included in a number of Codex standards might be considered to represent provisions which are subject to acceptance and that this issue should be clarified. The view was expressed that in the case of acceptance sampling plans (e.g., CAC/RM 42-1969) sample size and the acceptance number could not be separated.

65 The Committee decided to leave the question of the mandatory or advisory nature of Codex methods of sampling open. It agreed that guidelines should be developed which would assist Codex Committees in the selection of appropriate sampling procedures. The delegations of the United Kingdom and the United States of America agreed to undertake this task with the assistance of the Codex Secretariat.

CONSIDERATION OF THE SAMPLING PLANS FOR PREPACKAGED FOODS

66. The Committee had before it document CX/MAS 82/9 together with Appendix I. The document introduced by the Secretariat was in two parts. The first was concerned with the role of sampling plans in Codex standards and the means by which they were attracted to Codex standards, the second contained a number of proposals for endorsement.

Sampling Plans for Prepackaged Foods - inclusion in Codex Standards

67 It was pointed out that some of the issues regarding the citation of sampling provisions had been discussed earlier under item 5.2 which covered general principles for sampling procedures, and that this discussion had clarified a number of the points which needed attention by the Commodity Committees. In particular, the Committee noted that frequent and ambiguous references had been made to CAC/RM 42-1969 which had caused some confusion in the interpretation of standards.

68 The delegation of The Netherlands noted that the field of application of the sampling plans was clearly defined in CAC/RM 42-1969, e.g., that Sampling Plans for compositional and health-related properties were excluded, and that this should be kept in mind when endorsing the use of these plans in Codex standards.

69 In view of the foregoing discussion, it was agreed that the Secretariat be requested to amend editorially those Codex standards which had used a general expression such as "sampling shall be in accordance with the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (1969) (AQL-6.5) (Ref. No. CAC/RM 42- 1969)". It was agreed that such an amendment would be in agreement with the General Principles for the Establishment or Selection of Codex Sampling Procedures, adopted by the present Session of the Committee. It was further agreed that the most recent standards developed by the Joint ECE/Codex Alimentarius Group of Experts on Standardization of Quick Frozen Foods could be used as a model for the editorial work.

Sampling Plans for Prepackaged Foods - amendment

70. It was pointed out that the proposal contained in Appendix I to CX/MAS 82/9 ^{1/} had been developed by New Zealand as a result of discussions in the Codex Committee on Processed Fruits and Vegetables. The existing Sampling Plans had been criticized on the grounds that they required the examination of too big a number of units in the

sample and that Governments were reluctant to agree to the use of the sampling plans because of the cost involved when the examination involved destructive sampling.

^{1/} Proposal to amend the Sampling Plans (CAC/RM 42-1969) by reducing the size of the sample to be taken from the lot.

71. The delegation of France asked whether or not similar sampling plans could be used which, although more complicated statistically, required a smaller number of units in the sample to be examined. The delegation of the United States stated that it was a question of balancing the cost of larger sample sizes with the degree of protection afforded by the Sampling Plans. The matter raised by France was left open due to the unclear situation with regard to the obligations of Governments in their acceptance of standards containing sampling plans. The delegation of Switzerland suggested that the title of the Sampling Plans should refer to the real nature of the plans and proposed the title "Reference Method for Attribute Sampling (AQL-6.5) for Use in Codex Standards".

72. The Committee also discussed the meaning of the two inspection levels specified in the Plans. It was noted that the higher inspection level might be intended for use in border-line cases where a higher level of confidence was required. The Committee asked the Working Group on Determination of Net Weight to consider the matter (see para 90 of this Report).

73. Due to the still unresolved question of the status of sampling plans in Codex standards, the Committee temporarily endorsed the proposed amendment to the Sampling Plans for Prepackaged Foods as contained in Appendix I to CX/MAS 82/9.

ENDORSEMENT OF SAMPLING PROVISIONS IN CODEX COMMODITY STANDARDS

74. The Committee had before it document CX/MAS 82/9 containing methods of sampling included in certain draft standards for fruit juices and nectars and gari, subject to endorsement by the Committee.

Draft Standard for Fruit Juices (App. III to VI, ALINORM 8 3/14)

75. The Committee noted that the Method of Taking Sample and Expression of Results as m/m was to be considered by the Working Group on Methods of Analysis (see para 41 of this Report). In the meantime, it temporarily endorsed the provision for sample taking.

Draft African Regional Standard for Gari (App. III, ALINORM 81/28)

76. There was some question as to whether or not the two methods quoted (ISO 2170- 1980 and AOAC Section 10.125) were equivalent, the Committee requested the Coordinating Committee for Africa to re-examine these methods and did not endorse the provision. It requested ISO and AOAC to provide the necessary information to the Coordinating Committee to assist in its reaching a decision.

CONSIDERATION OF SAMPLING OF CEREAL GRAINS AND MILLED PRODUCTS FOR DETERMINATION OF MOISTURE CONTENT

77. The Committee had before it CX/MAS 82/9-ADD.I and CX/CCP 81/5 which contained a request from the Codex Committee on Cereals, Legumes and Pulses for an opinion on the use of the Cu Sum (cumulative sum) procedures in assessment of test results for moisture determination obtained on lots from which it was difficult to draw representative samples. The Committee referred the matter to the Working Group on Net Weight (WG 2) (see para 91 of this Report).

CONSIDERATION OF TERMS USED IN SAMPLING

78. The Committee had before it CX/MAS 82/10 a Joint Paper prepared by the Secretariat of ISO/TC 34 comprising ISO/DIS 7002.2 Agricultural Food Products - layout for a Standard Method of Sampling from a Lot and Annexes: (a) Vocabulary of Sampling Terms, (b) List of Equivalent Terms, (c) Flow chart of Sampling Inspection.

79. The document was introduced by the delegation of Hungary and attention was first directed to Annex A. The delegate said that the terms had been drawn from ISO 3534 and ISO 6206 together with a recommended definition of the term "Representative Sampling" from the Codex Alimentarius. The delegation of The Netherlands noted that the definition of variance (No.50) was based on normal distribution only, and suggested, additionally, that a Poisson distribution should be included in the expression. The delegation of the United Kingdom noted that the term Representative Sampling (No. 3 7) was included but no mention was made of the preferred term "Acceptance Sampling". Similarly, the delegation of the United States suggested that modifications were needed to a number of definitions including those for Acceptance Quality Level (No.1) and Acceptance Number (No.2).

80 The observer of the ISO said that, before being published as the 2nd Edition of a DIS document, the working paper CX/MAS 82/10 had no official status and that comments in writing should be sent directly to ISO with copies to the Codex Secretariat for information.

81 The Committee discussed the future status of the vocabulary and agreed that it should be elaborated by ISO with the full cooperation of Codex and that a decision on its future acceptance for use in Codex would then follow. The delegation of Norway pointed out that a Spanish language text would be necessary if the document were to be accepted into the Codex system. The delegate from Spain said that such a translation could be arranged in Spain.

CONSIDERATION OF GUIDELINES FOR ADMINISTRATIVE ASPECTS OF SAMPLING

82 The Committee was referred to working paper CX/MAS 82/10 already considered under the discussion on terms used in sampling (see para 78 of this Report). In introducing the document, the delegate of Hungary said that it did not comply with the wishes of the Committee since, although it contained a protocol of procedures for sampling and reporting of test results, it did not contain details on the preparation of samples.

83 The Committee was invited to decide on the detail required to describe the administrative aspects of sampling to be observed by Government officials in the examination of foods in international trade. It agreed that ISO 7000.2 was a general text which did not address this need specifically and that it was for Codex to develop an appropriate text if it was proved to be necessary. The delegation of the United States said that a composite document embracing the sampling vocabulary was required.

84 After further discussion, the Committee agreed that the needs could be better evaluated once the notes for the guidance of Codex Committees on the sampling procedures had been drawn up by the United Kingdom and the United States of America with the assistance of the Codex Secretariat (see para 65 of this Report), since it considered that in the development of the notes, the authors would be able to identify areas which required further attention. The delegation of the United Kingdom proposed that, when prepared, the "notes for guidance" should be circulated for comment and that

Governments be invited to identify matters which needed further documentation, and to participate in the development of any additional Guidelines by the United Kingdom, the United States of America and the Secretariat. The Committee agreed with this proposal.

REPORT OF THE AD HOC WORKING GROUP ON SAMPLING FOR NET WEIGHT DETERMINATION

85. The Committee had before it a report of the above Working Group. The report is given as Appendix III to this report. The Chairman of the Working Group informed the Committee that the Group had studied the replies received in response to the questionnaire on net weight (CX/MAS 82/2-Part II and CX/MAS 82/8) and the recommendations of the Chairman of the Working Group (Dr. Dubbert of the USA) made on the basis of an analysis of the replies received (CX/MAS 82/8-ADD.1). The Working Group had reached conclusions on net weight determination and on the matters referred to it during the Session.

Sampling for Net Weight Determination

86 The representative of EEC informed the Committee that the EEC had sent its comments on the basis of the questionnaire. However, these comments did not appear to have been available to the Working Group prior to the meeting. The EEC directives on net weight corresponded generally with the recommendations of the Working Group and was based on average as determined through appropriate sampling methods.

87 The delegation of the USA informed the Committee that OIML had developed a MAP plan for net weight and had submitted it to Governments. The Codex Secretariat should inform OIML of the decisions made within Codex in this field. The Committee noted that the Codex Committee on Food Labelling had agreed that claims on net contents be verified on the basis of the average and that the Commission had endorsed this view.

88 The delegation of The Netherlands indicated that, besides the average principle based on the EEC prepackaging directives, the minimum principle was applied in its country.

89 The Committee endorsed the conclusions of the Working Group as contained in paras 5-7 of Appendix III to this Report. The delegation of Norway pointed out that the remarks of the Working Group concerning tare determination was partly covered in the General Standard on the Labelling of Prepackaged Foods under the provision dealing with drained weight.

Inspection Levels I and II in the Codex Sampling Plans

90. The Committee noted the opinion of the Working Group that the two levels of sampling served to cover various circumstances, especially cases of dispute or controversy (see also para 72 of this Report). The representative of the EEC indicated that the reduction of the size of sample in the revised sampling plan was not acceptable as it represented a lowering of consumer protection. The EEC would make this view known at the Commission.

Moisture Content in Cereal Grains and Milled Cereal Products

91. The Committee noted that the Working Group did not have time to study the document CX/CCP 81/5 and agreed to the arrangements made by the Working Group to provide guidance to the Committee on Cereals as indicated in para 9 of Appendix III.

Adoption of the Report of the Working Group

92. The Committee thanked the Chairman and members of the Working Group for the work accomplished and adopted the report of the Working Group (see Appendix V to this Report).

CONSIDERATION OF THE REPORT OF THE FOURTH INTER-AGENCY MEETING ON METHODS OF ANALYSIS

93. The Committee had before it the report of the above meeting (Room Document No. 1). The report was introduced by the representative of ISO who informed the Committee concerning the deliberations of the Inter-Agency Meeting and summarized the items discussed as follows:

- (a) An up-dated inventory of ISO methods of analysis and sampling used in the agricultural and food industry had been presented by ISO. The usefulness of such an inventory had been recognized and the opinion expressed that other interested organizations should establish similar documents;
- (b) reports by the various International Organizations on progress made in the development of methods for cocoa products, cereal and cereal products, fats and oils, sugars, edible ices, milk and milk products, fruit juices, foods for special dietary uses, processed fruits and vegetables, processed meat products, starch hydrolysis products, microbiology, mineral waters and contaminants had been received;
- (c) methodology was being developed independently for cereals, cereal products and pulses by ISO/ICC on the one hand, and by AOAC on the other, and the Inter-Agency Meeting had expressed a desire that all the existing methods should be studied by a group of experts to select appropriate methods for the Codex taking into account the Codex principles for the selection of methods. The representative of AOAC had agreed to coordinate this work;
- (d) A vocabulary of standardized terms used in analytical methodology and sampling, which might be modified in the light of comments received from other interested International Organizations, had been prepared and presented by ISO. The availability of such a document, which could serve as a contribution to the next conference on harmonization of collaborative studies, had been welcomed;
- (e) a final first draft prepared by AOAC of the outline of inter-laboratory study procedures to validate performance of methods of analysis had been received. This document would be discussed at a workshop to be held in Washington, D.C. in October 1984 on collaborative studies for methods of analysis and related subjects;
- (f) a list of analytical methods required by Codex had been presented and the International Organizations attending the Inter-Agency Meeting had agreed to keep this list in view while planning their future programme of work.

94. The Committee agreed that the exercise carried out by ISO in up-dating the inventory of ISO methods of analysis was a useful one and considered that it was

desirable for ISO to expand the inventory by consolidating similar inventories from other International Organizations.

95 The Committee agreed that it would be desirable if a list of analytical methods required by the Codex were sent to all Codex Contact Points and to International Organizations. The Secretariat undertook to prepare and to distribute such a list.

96 The Committee was informed of active collaboration in the past between the Codex Secretariat and Australia regarding a compilation of Codex methods and their endorsement status. It was agreed that a continuation of this exercise would help the Committee in its work. The Codex Secretariat indicated that it would explore the possibility of such a comprehensive document being prepared and made available to the Inter-Agency Meeting and to the Committee.

97 The delegation from the Republic of Korea expressed the view that participation of International Organizations at the Inter-Agency Meeting should not be restrictive but should be expanded to include similar world-wide organizations. The Committee noted that this would follow when the Inter-Agency Meeting received a formal status. The Secretariat offered to assist the Secretariat of the Inter-Agency Meeting in drawing up a list of International Organizations to be invited.

OTHER BUSINESS

Statement by the Delegation of the Republic of Korea

98 The delegation of the Republic of Korea indicated that its country had been actively participating in the work of the Joint FAO/WHO Codex Alimentarius Commission and had been trying to incorporate into its national legislation international Codex Standards and Codes of Hygienic Practice for different commodities adopted and recommended by the Commission and would continue to do so,

99 The Republic of Korea had followed closely and with the greatest possible interest, the work of the Codex Committee on Methods of Analysis and Sampling since the early sessions of the Committee, The presence here today of the delegation of the Republic of Korea demonstrated the importance which the Government of the Republic of Korea attached to the work of the Committee. The Republic of Korea supported this work and agreed in principle with the various recommendations and guidelines on standard methods of analysis and sampling which had been made by the Committee.

100. The delegation wished to express its appreciation to the Joint FAO/WHO Food Standards Programme for the preparation of the documents for this Session, and also to commend the excellent arrangements made by the Hungarian Office for Standardization of the Hungarian National FAO Committee. It looked forward to close contact and cooperation in the future with members of the Committee.

Statement by the Delegate of the USSR

101 The delegate of the USSR indicated that, although his country was participating for the first time at a session of the Committee, the USSR attached great importance to the work of the Committee and was willing to support the work of the Committee and actively collaborate in achieving the aims of the Joint FAO/WHO Food Standards Programme.

102 The rapid and constant development in methods of analysis required a periodical review of Codex methods and this represented an important part of the future activities of the Committee. Close attention should be paid to the criteria for the selection of methods of analysis. It was important to develop methods for the determination of toxic

trace elements and other hazardous components of food. The way collaborative tests should be carried out should be harmonized on the basis of the experience of the various International Organizations. For example, in the USSR "standard foods" of rigorously controlled composition and with a long shelf-life were; used successfully in inter-laboratory tests.

Statement by the Delegation of Thailand

103 The delegation of Thailand indicated that Thailand and some other developing countries faced problems concerning the application of Codex methods of analysis since quite often instruments and equipment specified in the methods were not available for various reasons, including budgetary limitations. For this reason, it would be desirable if assistance could be provided to developing countries in order to remedy this situation. In the interest of promoting standardization and harmonization of methodology.

104 The Codex Secretariat indicated that FAO and WHO had programmes to assist countries in developing their infrastructures and capabilities in the field of food control and monitoring. While the; remarks of the delegation of Thailand would be brought to the attention of the responsible officers in FAO and WHO, the onus was on Governments to identify their needs and to make representations to FAO/WHO through the appropriate channels.

105 The delegation of the United States expressed the opinion that quite often the use of certain types of instruments were indispensable for the determination of particular parameters. In such cases, if proper instrumentation was not available, the laboratory should not attempt to make the determination.

106 The delegate of Australia called the attention of the Committee to the compliance requirements for testing laboratories if they are to be recognized, in the; future, as technically competent by accreditation bodies. Examples of such requirements are included in the draft ISO Guide No.25 (ISO/Certico Rev.2, March 1982) and the good laboratory practices elaborated by the OECD. The work of the CCMAS would be promoted if all Codex methods of analysis were tested through recognized collaborative studies the results of which were published. In the very near future, international acceptance of the work of other laboratories could become mandatory and routine and it was important that this Committee set the guidelines for method validation and acceptance, e.g., those of the AOAC.

DATE AND PLACE OF NEXT SESSION

107 The Committee noted that the next Session of the Committee was scheduled for the first half of 1985, subject to confirmation by the Commission and by the Hungarian Government.

108 The delegation of Australia expressed the opinion that an interval of two and a half years between sessions of the Committee was not in the interest of the work of the Commission in removing non-tariff barriers in food trade. Such a long interval between the present and the next session of the Committee was regrettable at a time when the Committee was making good progress and when it was developing guidelines for Codex Commodity Committees. Furthermore, the sessions of the Committee acted as a stimulus for cooperation between International Organizations.

109 Several delegations supported the views of Australia and added that the long interval to the next session would hold up, unduly, the clarification of the question of the

status of Codex methods of analysis and sampling in relation to the Codex Acceptance Procedures.

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APPENDIX I

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APPENDIX II

ACCEPTANCE BY GOVERNMENTS OF THE VARIOUS TYPES OF CODEX
METHODS OF ANALYSIS^{1/}

^{1/} See Procedural Manual of the Codex Alimentarius Commission, 5th Edition for the definitions of these methods.

(1) Defining Methods (TYPE I)

Codex Defining Methods of Analysis (Type I) should be subject to acceptance by Governments just as are the provisions which they define and which form part of Codex standards. Full acceptance of a Codex defining method should mean the acceptance that the value provided for in a Codex standard is defined by means of the Codex method.

In determining compliance with the value in the Codex standard, Governments should undertake either to use the Codex method directly or to use another method verified against the Codex method.

Non-acceptance of the Codex defining method or acceptance of Codex standards with substantive deviations in the Codex defining methods should be taken to mean acceptance of the Codex standard with specified deviation.^{2/}

(2) Reference Methods (TYPE II)

The acceptance of Codex standards containing Codex Reference Methods of Analysis (Type II) should mean the recognition that codex reference methods are methods the reliability of which has been demonstrated on the basis of internationally acceptable criteria. They should, therefore, be recommended for use in checking compliance of food with the relevant provisions in the Codex standards either directly or by verifying other methods against the Codex reference method, especially in disputes involving the results of analysis.^{3/}

(3) Alternative Approved Methods (TYPE III)

The acceptance of Codex standards containing Codex Alternative Approved Methods of Analysis (Type III) should mean the recognition that Codex alternative approved methods are methods the reliability of which has been demonstrated in terms of internationally acceptable criteria. They should be recommended for use in food control, inspection or for regulatory purposes. When used in dispute situations, these methods, like other methods, should be verified against the Codex reference method.^{3/}

(4) Tentative method (TYPE IV)

Since the reliability of these methods has not yet been demonstrated by the CCMAS on the basis of the internationally accepted criteria, it follows that they cannot be regarded as final Codex methods. Type IV methods may, eventually, become Type I, II or III methods with the resultant implications regarding the acceptance of Codex methods. Type IV methods should, therefore, not be recommended as Codex methods until their reliability has been recognized by the CCMAS.^{2/}

^{2/} Adopted by the Codex Committee on Methods of Analysis and Sampling (CCMAS) (see paras 27, 29 of this Report)
^{3/} Subject to Government comments (see paras 28, 29 of this Report).

REPORT OF THE AD HOC WORKING GROUP ON ENDORSEMENT
OF METHODS OF ANALYSIS

The following members constituted the Ad Hoc Working Group on Endorsement:

J.P. Barrette	(Canada)	- Chairman
N. Rao-Maturu	(FAO)	- Rapporteur
H.W. Schipper	(ISO)	
P.W. Hendrikse	(The Netherlands)	
P.L. Schuller	(The Netherlands)	
J. Barvir	(Czechoslovakia)	
P. Molnár	(Hungary)	
I. Boros	(Hungary)	
B. Borszéli	(Hungary)	
F. Domoki	(Hungary)	
R.C. Norris	(Australia)	
R. Besson	(Switzerland)	
Y. Malkki	(Finland)	
A. Gross	(USA)	
W.M. Horwitz	(USA)	
M. Tuinstra-Lauwaars	(AOAC)	
E. Hopkin	(IDF)	

The Working Group was asked (i) to review the comments received from Governments on the general methods for the determination of metallic contaminants as contained in document CX/MAS 82/4 with a view to advance them in the Codex Step Procedure; and (ii) to endorse methods of analysis in draft Codex commodity standards as contained in documents CX/MAS 82/5 and 82/5-Add.1,2 and 3. The Working Group had also before them the comments from Australia, Italy, Czechoslovakia, Poland and the Federal Republic of Germany, as a room document. The Working Group was also asked to advise the COMAS of how it should proceed with the standardization of methodology for the determination of (i) alcohol-insoluble solids content in quick-frozen corn-on-the-cob and in quick-frozen whole kernel corn, and (ii) free fatty acid content in the fat of quick-frozen French fried potatoes.

The Working Group, at the outset, agreed that the applicability of the methods to enforce the limits in Codex standards would be an essential criterion for its approval of general methods for the determination of metallic contaminants, or its decision on the endorsement of methods suggested by the Codex Committees.

The Working Group also expressed its opinion that, wherever possible, Type III methods should be verified against a reference Type II method.

General Methods for the Determination of Metallic Contaminants

1. Arsenic-Alternative Method AOAC (1980) XIII 25.010-.011 colorimetric (molybdenum blue) method

The Working Group noted that the method is generally satisfactory for regulatory work on food and could be used for determination of levels of arsenic down to 1 mg/kg. The interference of phosphate in the determination of arsenic by the above method is well known and is taken care of in the procedure.

The Working Group recommended that the CCMAS advance the method as a Codex alternative approved method (Type III) to Step 8.

2. Arsenic-Alternative method AOAC (1980) XIII - 1st Supplement 25.A01-25.A05 Hydride Generation - Atomic Absorption Method

The Working Group noted that the above method had been subjected to collaborative studies and had shown acceptable reproducibility and repeatability. As most of the studies had been carried out with equipment available from a single manufacturer (Perkin Elmer), the Working Group expressed the opinion that, in case other equipment is used, the method should be calibrated against a reference method, since the construction of the quartz tube or heated developing tray could cause differences.

The Working Group recommended that the CCMAS advance the method as a Codex Alternative Method (Type III) to Step 8.

3. Cadmium - Alternative method AOAC (1980) XIII - 1st Supplement 25.A01-A04 Anodic Stripping Voltametry method

The Working Group noted that Codex had not set any limits for cadmium in any of the commodity standards. The method was found very satisfactory for determination of cadmium in foods down to levels as low as 0.1 mg/kg. The method was not satisfactory when cadmium levels fall below 0.1 mg/kg.

The Working Group recommended that the CCMAS advance the method as a Codex alternative method (Type III) to Step 8.

4. Lead Reference method AOAC (1980) XIII 25.061-067

The Working Group noted that the method was found satisfactory for determination of lead in foods down to 0.3 mg/kg and recommended the CCMAS to advance the method to Step 8 as a Codex reference (Type II) method.

5. Lead, Alternative method AOAC (1980) XIII, 1st Supplement 25.A03-A04 - Closed System digestion anodic stripping method ,

The Working Group noted that the reproducibility of the method is satisfactory and that the method could be used satisfactorily for the determination of lead in food down to 1 mg/kg.

The Working Group recommended that the CCMAS advance the method to Step 8 as a Codex alternative (Type III) method.

6. Zinc, Alternative method AOAC (1980) XIII - 1st supplement
25.A03~25.A05 Closed System digestion AA method

The Working Group noted that the method worked satisfactorily for determination of zinc in foods up to 15 mg/kg and recommended the CCMAS to advance the method to Step 8 as a Codex alternative (Type III) method.

Endorsement of Methods of Analysis in Draft Codex Standards

The Working Group expressed its opinion that the task of endorsement of methods of analysis in draft Codex standards would become easy if certain information as detailed in Annex I, drafted by the delegations of Australia and the USA were provided by Codex Commodity Committees to the CCMAS. A paper may be prepared for discussion at the next Session of the CCMAS on the subject, which may result in the Committee developing certain guidelines to Codex Commodity Committees for providing relevant information on the methods proposed by them.

The recommendations of the Working Group concerning the endorsement of methods of analysis in draft Codex Commodity standards and their classification of the methods into different types is given in Annex 2 to this Appendix.

Determination of free fatty acids in the fat of Quick-Frozen French Fried Potatoes

The Working Group agreed that a collaborative study is required and suggested that it be carried out by the European Union of Potato Industries. The Working Group felt that, on the basis of available technical literature, a method consisting of the simplest possible combination of variables will be adequate for the intended purpose. Therefore, Method I given in CX/QFF 80/3 is probably entirely adequate.

Determination of Alcohol-Insoluble Solids in Quick-Frozen Corn-on-the-Cob and Whole Kernel Corn

The Working Group felt that the methodology tested for the determination of alcohol-insoluble solids in quick-frozen corn-on-the-cob and whole kernel corn in the collaborative study suffered from two description defects: preparation of the sample and concentration of alcohol used.

The Working Group proposed that the Codex Secretariat should approach the various laboratories that had taken part in the collaborative study and also Pillsburys in the USA, as to whether one of them could take a lead in standardizing the methodology and carry out a further collaborative study. The Codex Secretariat should make all the background information available on the subject to them.

TYPE OF INFORMATION REQUIRED FOR SUBMISSION
BY THE CODEX COMMODITY COMMITTEES TO THE CCMAS

1. CODEX STANDARD:
2. CODEX COMMITTEE:
3. COMPONENT TO BE ANALYSED:
4. CODEX SPECIFICATION (e.g. Limit):
5. METHOD
 - 5.1 TITLE
 - 5.2 TYPE (indicate principle, e.g., Hydride, ASV, AA, etc.)
 - 5.3 REFERENCE
6. COLLABORATIVE STUDY (including citation) Yes _____ No _____
 - 6.1 CONCENTRATION RANGE
 - 6.2 NO. OF MATERIALS
 - 6.3 NATURE OF MATRIX
 - 6.4 NO. OF PARTICIPATING LABORATORIES
 - 6.5 NO. OF REPLICATES
 - 6.6 REFERENCE MATERIAL NO: 1,2, 3,. etc.
 - 6.7 AVERAGE (BY MATERIALS) (Units)
 - 6.8 COEFFICIENTS OF VARIATION (BY MATERIALS)
 - 6.9 % OUTLIERS
7. NOTES: (e.g. Reason for changes, previous endorsements, reason for not recommending previously endorsed methods, reason for not recommending general methods.)

ANNEX II TO
APPENDIX III

Parameter	Method Proposed	Status of Endorsement	Comments
<u>CODEX COMMITTEE ON FATS AND OILS</u>			
(a) <u>Draft Standard for Fat Spreads/Spreadable Table Fats - Appendix III, ALINORM 83/17 (at Step 8 of the Codex Procedure)</u>			
<u>I Estimation of Milk Fat Content</u>	CAC/RM 15-1969	E (Type I)	
<u>II Determination of Fat Content</u>	IUPAC 6th Ed.(1979) 2.801 section 586	E (Type IV)	^{1/}
<u>III Determination of loss of mass on. drying</u>	No provision in the standard	-	
<u>IV Determination of Vitamin A Content</u>	AOAC,1980(XIII)43.001-007	E (Type II)	^{25/2/}
<u>V Determination of Vitamin D Content</u>	AOAC,1980(XIII)43.195-208	E (Type II)	
<u>VI Determination of Vitamin E</u>	IUPAC 6th Ed.(1981)2.404	E (Type IV)	^{3/}
<u>VII Determination of Sodium Chloride Content</u>	Method as given in ALINORM 79/23, APP.IV	E (Type II)	
<u>VIII Determination of Iron</u>	AOCS, Ca. 15-1976	E (Type IV)	^{3/}
<u>IX Determination of Copper</u>	AOAC (1980) XIII, 25.095 25.096, 25.047, 25.048	E (Type IV)	^{3/26/}
	AOAC (1965) 24.023-24.028	E (Type II)	
<u>X Determination of Lead</u>	AOAC (1965)24.053 and 24.008, 24.009, 24.043, 24.046-24.048 N		^{4/}
	dithiozone determination procedure		
	AOAC (1980) XIII 25.095, 25.096, 25.047 & 25.048	E (Type IV)	^{3/}
<u>XI Determination of Arsenic</u>	AOAC (1980) XIII 25.006-008, 25.012, 25.013	E (Type II)	^{24/}
<u>JOINT ECE/CODEX ALIMENTARIUS GROUP OF EXPERTS ON STANDARDIZATION OF FRUIT JUICES</u>			

(b) Proposed Draft Standard for Guava Nectar Preserved Exclusively By Physical Means (at Step 5 of the Codex Procedure) - APPENDIX III, ALINORM83/14

I	<u>Taking of Sample and Expression of Results as m/m</u>	According to the IFJU method No.1,1968, Determination of Relative Density and the IFJU General Sheet,1971, Conversion of analytical results from m/v (g/l, mg/l) to m/m (g/kg) and the reverse	E	
II	<u>Test for Fermentability</u>	According to the IFJU method No.18,1974, Fermentation Test. Results are expressed as "positive" or "negative"	E (Type I)	
III	<u>Determination of Minimum Content of Fruit Ingredient</u>	Method to be elaborated	-	
IV	<u>Determination of Sugars</u>	According to the IFJU method No.4,1968, Determination of Sugar (Luff-Echoorl Method) Results are expressed as o/o m/m	E (Type I)	<u>27/</u>
V	<u>Determination of Honey</u>	Method to be elaborated	-	
VI	<u>Determination of Soluble Solids</u>	According to the IFJU No.8B,1968, Estimation of method soluble solids, indirect determination (see Official Methods of Analysis of the AOAC,1975, 22.019, 31.009 and 52.010). Results are expressed as o/o m/m sucrose ("Brix") with correction for temperature to the equivalent at 20°C	E (Type I)	<u>5/</u>
VII	<u>Determination of Ethanol</u>	According to the IFJU method No.2,1968, Determination of alcohol (Ethyl alcohol). Results are expressed as g ethanol/kg	Endorsement postponed	<u>6/</u>

<u>VIII</u>	<u>Determination of Arsenic</u>	According to: Colorimetric (Silver diethyl dithiocarbamate.) method of AOAC (1980) XIII 25.012-25.013 IFJU method No.47,1973, Determination of Arsenic (Method No. A.34/F of the "Office International de la Vigne et du Vin"). Results are expressed as mg arsenic/ kg	E (Type II) E (Type IV)	 <u>3/</u>
<u>IX</u>	<u>Determination of Lead</u>	According to: AOAC (1980) XIII 25.061-25.067(Type II) IFJU method No.14, 19 64, Determination of lead (photometric method). Results are expressed as mg lead/kg	E (Type II) E (Type IV)	 <u>3/</u>
<u>X</u>	<u>Determination of Copper</u>	According to AOAC (1980) XIII, 25.044-25.048 atomic absorption method	E (Type II)	
<u>XI</u>	<u>Determination of Zinc</u>	According to AOAC (1980) XIII, 25.150-25.153 atomic absorption method	E (Type II)	
<u>XII</u>	<u>Determination of Iron</u>	According to the IFJU method No.15,1964, Determination of Iron (photometric method). The determination shall be made after dry ashing as described in Section 5 – Remark (b). Results are expressed as mg iron/kg	E (Type II)	<u>7/</u>
<u>XIII</u>	<u>Determination of Tin</u>	According to AOAC (1980) XIII, 25.136-25.138, atomic absorption method	E (Type II)	<u>8/</u>
<u>XIV</u>	<u>Determination of Sulphur Dioxide</u>	According to the IFJU method No.7,1968, Determination of total sulphur dioxide. Results are expressed as mg SO ₂ /kg.	E (Type II)	<u>9/</u>
<u>XV</u>	<u>Determination of Water Capacity and Fill of Containers</u>	According to the method published in the Almanac of the - Canning, Freezing, Preserving Industries, 55th	E (Type I)	<u>10/</u>

Ed., 1970, p.131-132, E.E.
 Judge and Sons,
 Westminster MD (USA)

- (c) Proposed Draft Standard for Mango Juice Preserved Exclusively By Physical Means (at Step 5 of the Codex Procedure)- (APPENDIX IV, ALINORM 83/14)
 Same as in the Proposed Standard for Guava Nectar, except that:
1. No method for the Determination of minimum content; for fruit ingredient has been included in the standard since no such provision exists in the standard
 2. No method for the determination of honey has been included in the standard since honey is not a permitted ingredient; and Decisions same as for Guava nectar where applicable
 3. A method for the 'degree of centrifugation' (i.e., max.50% m/m of insoluble solids) is to be elaborated
- (d) Proposed Draft Standard for Pulpy Mango Nectar Preserved Exclusively by Physical means (at Step 5 of the Codex Procedure) (Appendix V, ALINORM 83/14) -
 Same as in the Proposed Draft Standard for Guava Nectar. -“-
- (e) Proposed Draft General Standard for Fruit Nectars Preserved Exclusively by Physical Means (at Step 3 of the Codex Procedure) (Appendix VI, ALINORM 83/14) -
 Same as in the Proposed Draft Standard for Guava Nectar, -“- 11/
 except that the test of fermentability is not valid for certain small fruits.
- (f) Draft Standard for Concentrated Pineapple Juice (Appendix II, ALINORM 83/14)

CODEX COMMITTEE ON COCOA PRODUCTS AND CHOCOLATE

- (g) Draft Standard for Cocoa Nib, mass, press cake, dust for use in the Manufacture of Cocoa and Chocolate products (at Step 8 of the Codex Procedure) Appendix II, ALINORM 83/10)

Cocoa Shell (max.5% m/m on fat-free dry matter)	Spiral Vessel Count (AOAC,198013.015-13.020) Stone Cell Count (AOAC, 198013.021-13.025)	E (Type I)
Total Ash/ (Max.10% m/m on fat-free dry matter or 14% m/m when treated with alkalizing agents)	AOAC - OICC method (AOAC, 1980, 13.005)	E (Type I)
Ash Insoluble in HCL (max. 0.3% m/m on fat-free dry matter)	Method not yet proposed. (Old method AOAC,1980, 13.009)	-
Arsenic (max. 1 mg/kg)	AOAC, 1980, 25.012-25.013 silver diethyldithiocarbamate method	E (Type II)
Copper (max. 20 mg/kg)	AOAC, 1980, 25.044-25.048	E (Type II)

	atomic absorption method		
Lead (max. 1mg/kg)	AOAC, 1980, 25.061-25.067		
	atomic absorption method	E (Type II)	
(h) <u>Draft Standard for Composite and Filled Chocolate</u> (at Step 8 of the Codex Procedure) - Appendix III, ALINORM 83/10			
<u>Composite chocolate</u>			
Percentage of chocolate	Methods to be developed case by case depending on the types and the physical state of the optional components	-	
<u>Filled chocolate coating</u>	All methods approved for the chocolate type used for the coating (the coating consists of chocolate min.40% m/m of finished product)	See previous endorsements of CCMAS	
<u>Centre</u>	The methods of analysis approved for the type of centre concerned	See previous endorsements of CCMAS	
(i) <u>Draft Standard for White Chocolate/Cocoa Butter Confectionery</u> (at Step 8 of the Codex Procedure)- Appendix IV, ALINORM 83/10			
<u>Total Ash</u>	AOAC-OICC method – AOAC (1980) 13.005	E (Type I)	
Percentage Cocoa Butter (min. 2.0% on the dry matter)	Through total fat OICC-AOAC method – AOAC (1980) XIII 13.031-13.033 - OICC 8a (1972) (Common text)	EP	see para 49
	<u>NOTE:</u> Methods for:(a) Total sterols OICC 14/1970; and (b) GLC analysis of sterols OICC 15/1973 will be submitted for endorsement when values of collaborative testing are available	E (Type III)	
Milk Fat (min. 3.5% on dry matter)	Determination of semi-micro indices OICC 8i/1960 AOAC (1975) XII 13.050, 28.037, 13.041 and 13.042; calculated from the Reichert Meissel values. (These are provisional methods which might be replaced by a gas chromatographic method)	E (Type I)	
Fat-free Milk Solids (min. 10.5% on dry matter)	Joint OICC/AOAC method OICC 6b/1963-1973 AOAC (1980) XIII 13.047 Extraction of milk proteins with sodium oxalate and Kjeldhal	E (Type II)	^{28/}

	nitrogen determination	
Moisture Content (for expression of values on dry matter)	Joint OICC/AOAC method: OICC 105/b-1978 AOAC (1980) XIII 13.003-13.004	E (Type II)
Sugars (max. 55%)	OICC 7a to 7e/1960 provisionally - recommended. A collaborative test is envisaged (AOAC/OICC/AIFC) based on GLC/TMS and/ or enzymatic <u>methods</u> . <u>Method not yet proposed</u>	
Arsenic (max. 0.5 mg/kg)	AOAC (1980) 25.012-25.013 silver diethyldithiocarbamate method	E (Type II)
Copper (max. 15 mg/kg)	AOAC (1980) 25.044-25.048 atomic absorption method	E (Type II)
Lead (max. 1 rag/kg)	AOAC (1980) 25.061-25.067 atomic absorption method	E (Type II)

CODEX COMMITTEE ON PROCESSED FRUITS AND VEGETABLES

- (j) Proposed Draft Standard for Canned Chestnuts and Canned Chestnut Puree (at Step5 of the Codex Procedure)
Appendix VIII, ALINORM 83/20

Determination of drained weight

In accordance with the FAO/WHO E (Type I) Codex Alimentarius Methods CAC/ RM 36-19 70 (FAO/WHO Codex Alimentarius Methods of Analysis for Prepackaged Fruits and Vegetables, 1st Series, CAC/RM 36/39-1970)
Determination of Drained Weight - Method I. Results are expressed as % m/m calculated on the basis of distilled water at 20 C which the sealed container will hold when completely filled

Syrup measurements (Refractive index)

In accordance with the AOAC E (Type I) 12/ (1979) method (Official Methods of Analysis of the AOAC, 1975, 31.011 (Solids) by Means of Refractometer (4), Official, Final Action (and 52.008 and 52.009). Results are expressed as % m/m of sucrose ("degrees Brix"), with correction for temperature to the equivalent at 20°C

Determination of water capacity

In accordance with the FAO/WHO (Type I) E Codex Alimentarius Method, CAC/RM 46-1972 (FAO/WHO

Codex Alimentarius Methods of Analysis for Processed Fruits and Vegetables - 2nd Series, CAC/RM 44/49-1972); Determination of Water Capacity of Containers
Results are expressed as volume of distilled water that the container holds

COORDINATING COMMITTEE FOR AFRICA

(k) Draft African Regional Standard for Gari
(at Step 6 of the Codex Procedure) - Appendix III, ALINORM 81/28

Determination of Granularity	Methodology for these parameters elaborated by AOAC, ISO and ICC	Endorsement postponed	<u>13/</u>
Determination of Moisture			
Determination of Ash	13/ will shortly be reviewed by		
Determination of Acidity	'AOAC and a single appropriate		
Determination of Fat	method will be recommended		
Determination of Crude Fibre	According to ISO 5498,1981, Agricultural Food Products - Determination of crude fibre content - endorsed General method, or ISO 6541,1981, Agricultural Food Products - Determination of crude fibre content -Modified Scharrer method	not endorsed	<u>14/</u>
Determination of Proteins	According to ISO 1871-1975 Agricultural Food Products - General directions for the determination of nitrogen by the Kjeldahl method, or by AOAC method 14.026 (Official methods of the AOAC, 12th Ed.,1975, page 226). Protein content is calculated by multiplying the nitrogen content by 5.7		<u>15/</u>
Determination of hydrogen cyanide	--		<u>16/</u>

COORDINATING COMMITTEE FOR EUROPE (ALINORM 83/19)

(1) Draft European Regional Standard for Vinegar (App. II, ALINORM 83/19)

Total acid content - wine vinegar: min.60 g/1 other vinegars:min.50 g/1 calculated as CH ₃ COOH	AOAC, XIII, Ed., 1980, 30.701 (Type II method)	E (Type II)	
Sulphur dioxide max. 70 mg/kg	Idometric titration, Recueil des méthodes internationales d'analyses -		<u>17/</u>

	de vins, OIV, A-17, 1969 (given in CX/EURO 82/3- Part II, App .I)		
L-ascorbic acid max. 400 mg/kg	TLC, OIV, A-28, 19 69 (see under (ii))		<u>18/</u>
Iron (Fe) [30] mg/kg	IFJU Method No.15, 1964, Determination of Iron (photometric Method) following dry ashing as described in Section 6 - Remark (b)	E (Type II)	<u>19/</u>
Arsenic (As) [1] mg/kg	AOACU980XIII, 25.012-25.013 (silver diethyldithiocarbamate)	E (Type II)	
Lead (Pb) [1] mg/kg	AOAC (1980) XIII, 25.061-25.067	E (Type II)	
Copper (Cu) [10] mg/kg	AOAC (1980) XIII, 25.044-25.048(AAS)	E (Type II)	
Zinc (Zn) [10] mg/kg	AOAC (1980) XIII, 25.150-25.153(AAS)	E (Type II)	
Total Soluble solids	As given in CX/MAS 82/5-Add.2 (Conference Room Document)		<u>22/</u>

CODEX COMMITTEE FOR FOODS FOR DIETARY USES (ALINORM 83/26)

(m) Foods for Infants and Children (Infant Formula, Cereal-based Foods for Infants and Children and Canned Baby Foods)

Determination of Ash	AOAC (1980) XIII, 7.009	E (Type I)	
Loss on drying	AOAC (1980) XIII, 7.003 Moisture drying in Vacuo at 95-100 C	E (Type I)	<u>20/</u>
Crude fibre	ISO 5498, ISO 6541		<u>21/</u>

CODEX COMMITTEE ON EDIBLE ICES

(n) Codex Standard for Edible Ices and Ice Mixes

Determination of fat content	ISO/DIS 7328		<u>23/</u>
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EXPLANATORY NOTES ON COMMENT COLUMN

- ^{1/} Position will be reviewed when results of collaborative studies are available. The Working Group wished to know why the method CAC/RM 16-1969 which had been recommended for use of fat content in margarine could not be used for the determination of fat in fat-spreads/spreadable table fats.
- ^{2/} Additional information is available in JAOAC 1980 Vol.63, p. 406-407.
- ^{3/} Position will be reviewed when results of collaborative studies are available.
- ^{4/} This method cannot determine lead at levels as low as 0.1 mg/kg. No suitable reference method is presently available to determine Pb at levels of 0.1 mg/kg.
- ^{5/} Equivalent methods - ISO 2172.2173 are available.
- ^{6/} This method is presently being amended by IFJU to take into account operating temperatures higher than 20 C.
- ^{7/} An equivalent ISO method, ISO 5517 is available. The Commodity Committee should provide the CCMAS with the results of collaborative studies when available.
- ^{8/} The reference given in ALINORM 83/14 App. III is erroneous.
- ^{9/} Results of collaborative studies when available should be provided to the CCMAS. The Working Group wished to know whether the methodology fulfills the requirements of Codex method selection.
- ^{10/} Reproduced in ALINORM 71/23, Appendix V.
- ^{11/} Commodity Committees should specify what small fruits are involved.
- ^{12/} There is a change in nomenclature for expression of "degree Brix".

- ^{13/} No action can be taken until the review of ISO, AOAC and ICC is completed by AOAC.
- ^{14/} ISO 5498 is a collection of all methods suitable for determination of crude fibre in foods and feeds. The Coordinating Committee for Africa should be more specific as regards its recommendation for suitable method.
- ^{15/} There is no need for this method since there is no mandatory provision for protein in the commodity.
- ^{16/} ISO 2164 recommended for determination of hydrogen cyanide in pulses, may be a suitable method.
- ^{17/} The method proposed was for determination of sulphur dioxide in wines and the Working Group had no information as to whether the method had been tested collaboratively for determination of sulphur dioxide in vinegar. The Group expressed its opinion that the Tanner method can be used instead and agreed to defer endorsement of the method pending receipt of more information from the Coordinating Committee for Europe on the details of the methodology used and results of a collaborative study, if so tested.
- ^{18/} The Working Group wished to know the details of the methodology used and the rationale for using the TLC method in preference to simple titrimetric method, which experience had shown, gave reproducible results. Pending receipt of this information, the Group agreed to defer endorsement of the method.
- ^{19/} The Working Group would like to have the results of a collaborative study when available.
- ^{20/} The Netherlands, from its trials of the method, found that it is not applicable to all infant foods.
- ^{21/} The Working Group was informed of the discussions on the subject at the last Session of the Codex Committee for Foods for Dietary Uses. That Committee considered the amount of crude fibre in infant formula as analytically irrelevant. At the present time, an error in the amount of carbohydrates (as determined by difference) caused by neglecting the crude fibre content could be less than the analytical error in the determination of crude fibre in the presence of thickeners. The Working Group took no action.
- ^{22/} An AOAC method (AOAC 1980(XIII)30.064) exists for the determination of total soluble solids in vinegar, which indicates that the size and shape of dish and exact time of drying should be specified for arriving at reproducible results. The Working Group took no action pending the results of a collaborative study of the method suggested.
- ^{23/} Methodology for determination of not only fat but also other parameters like total solids, weight/unit volume, etc. in edible ices is being elaborated by the ISO/IDF/AOAC Group and the Working Group wished to study all the methods together, after receipt of results of collaborative studies. •
- ^{24/} AOAC (XIII) 1st Supplement 1980, 25.A01-25.A05 is also a suitable method.
- ^{25/} AOAC has replaced the method 43.001-007 with 43.008-43.013 which has been studied specifically for margarine and butter.
- ^{26/} The attention of the Codex Committee on Fats and Oils is drawn to the fact that AOAC 1980(XIII) 25.038-25.040 contains a procedure for the digestion of fatty acids.
- ^{27/} Attention is drawn to the fact that the method determines "total sugars" and not "added sugars".
- ^{28/} Not applicable to 'white chocolate'.

ALINORM 83/23
APPENDIX IV

**GENERAL PRINCIPLES FOR THE ESTABLISHMENT
OR SELECTION OF CODEX SAMPLING PROCEDURES ^{1/}**

^{1/} For inclusion in the Procedural Manual of the Codex Alimentarius Commission, Fifth Edition (see paras 55-58, ALINORM 83/23) following paragraph 3 of the General Principles for the Establishment of Codex Methods of Analysis and Sampling

4. Purpose of Codex Methods of Sampling

Codex Methods of Sampling are designed to ensure that fair and valid sampling procedures are used when food is being tested for compliance with a particular Codex commodity standard. The sampling methods are intended for use as international methods designed to avoid or remove difficulties which may be created by diverging legal, administrative and technical approaches to sampling and by diverging interpretation of results of analysis in relation to lots or consignments of food, in the light of the relevant provision(s) of the applicable Codex standard.

5. Methods of Sampling

(A) Types of Sampling Plans and Procedures

(a) Sampling Plans for Commodity Defects:

These are normally applied to visual defects (e.g., loss of colour, mis-graded for size, etc.) and extraneous matter. They will normally be attribute plans, and plans such as those included in CAC/RM 42-1969 may be applied.

(b) Sampling Plans for Net Contents:

These are sampling plans which apply to pre-packaged foods generally and are intended to serve to check compliance of lots or consignments with provisions for net contents.

(c) Sampling Plans for Compositional Criteria:

Such plans are normally applied to analytically determined Compositional criteria (e.g., loss on drying in white sugar, etc.). They are predominantly based on variable procedures with unknown standard deviation.

(d) Specific Sampling Plans for Health-related Properties:

Such plans are generally applied to heterogeneous conditions, e.g., in the assessment of microbiological spoilage, microbial by-products or sporadically occurring chemical contaminants.

(B) General Instructions for the Selection of Methods of Sampling

(a) Official methods of sampling as elaborated by international organizations occupying themselves with a food or a group of foods are preferred. Such methods, when attracted to Codex standards, may be revised using Codex recommended sampling terms [to be elaborated].

(b) The appropriate Codex Commodity Committee should indicate, before it elaborates any sampling plan, or before any plan is endorsed by the Codex Committee on Methods of Analysis and Sampling, the following:

- (i) The basis on which the criteria in the Codex Commodity standards have been drawn up (e.g. whether on the basis that every item in a lot, or a specified high proportion, shall comply with the provision in the standard or whether the average of a set of samples extracted from a lot must comply and, if so, whether a minimum or maximum tolerance, as appropriate, is to be given);
- (ii) whether there is to be any differentiation in the relative importance of the criteria in the standards and, if so, what is the appropriate statistical parameter each criterion should attract, and hence, the basis for judgement when a lot is in conformity with a standard.

(c) Instructions on the procedure for the taking of samples should indicate the following:

- (i) the measures necessary in order to ensure that the sample taken is representative of the consignment or of the lot;
- (ii) the size and the number of individual items forming the sample taken from the lot or consignment;

- (iii) the administrative measures for taking and handling the sample.
- (d) The sampling protocol may include the following information:
 - (i) the statistical criteria to be used for acceptance or rejection of the lot on the basis of the sample;
 - (ii) the procedures to be adopted in cases of dispute.

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APPENDIX V

REPORT OF THE AD HOC WORKING GROUP ON ACCEPTANCE SAMPLING FOR
THE DETERMINATION OF NET CONTENTS

1. At the Thirteenth Session of the Codex Committee on Methods of Analysis and Sampling (CCMAS), Budapest, 29 November-3 December 1982, the Working Group was convened to review progress and to summarize the status of ongoing work towards harmonizing, within Codex, procedures for acceptance sampling for the determination of net contents.

2. The membership of the Working Group was as follows:

P.L. Penttila	-	Finland
N. Blaize	-	France
J. Rüssing	-	Germany, Fed. Republic of
C. Apostolopoulos	-	Greece
L. Körmendy	-	Hungary
P. Molnár		"
F. Orsi		"
M. Uzonyi		"
W.J. de Koe	-	Netherlands
A.O. Hougen	-	Norway
P. Koch	-	Switzerland
W. Dubbert (Chairman)	-	United States of America
E. Campbell (Rapporteur)		"
D.B. Dennison		"
J. Winbush		"
O. Demine		EEC
A. Randell		ECE

3. The Chairman reviewed the activities of the Working Group, which centered primarily on Member countries' replies to the questionnaire circulated according to a schedule announced at the Twelfth Session of the Committee (CX/MAS 82/2, Part II).

One of the main purposes of the questionnaire was to arrive at an agreement as to the type of statistical plan countries could support in verifying their net content control for pre-packaged foods circulated in international trade. The questionnaire described three types of plans that had seemed feasible to the Working Group at the Twelfth Session:

- (a) High acceptance probability plan, HAP;
 - (b) Moderate acceptance probability plan, MAP; and
 - (c) an indifferent quality plan, IQP.
4. Comments were received from fourteen countries, nine are included in CX/MAS 82/8. The Chairman's summaries of comments and recommendations for further actions that the Committee should pursue are contained in CX/MAS 82/8-ADD.1.
5. The Working Group generally agreed with the summaries of comments; however, when the Working Group considered the additional information received after the preparation of the summaries, it decided that some changes in the recommendations were necessary. The Working Group made the following recommendations:
- (a) CCMAS should abandon any support for the MAP sampling plan as described in CX/MAS 82/2, part II.
 - (b) The practice of establishing lower limits for any sampling plan, or plans, for both the average net content and for individual units, should be supported by CCMAS.
 - (c) The use of standard deviations in sampling plans and procedures is recognized as a reasonable practice.
 - (d) When developing sampling plans to be applied to large sized lots, the economic consequences of lot rejection should be considered.
 - (e) CCMAS recognizes that sampling procedures for net content support consumer protection, provide an incentive for producers to meet net content requirements, and generate documents for legal actions.
 - (f) Sampling procedures can be applied at any point in the marketing chain if the essential characteristics of the lot are maintained.
 - (g) CCMAS recognizes that the criteria for net content sampling should be applied to international trade and, ideally, to domestic trade as well.
6. The Working Group recognized no consensus for a specific sampling plan for net content and viewed this as a significant shortcoming. From the nature of the comments, it became apparent that countries are satisfied with their present sampling strategy and would be quite reluctant to change their sampling programme. Since there appeared to be little hope for gaining general consensus for a specific net content sampling plan, it may be practical for CCMAS to recognize all sampling plans that have specified procedures consistent with good statistical concepts. In view of this situation, it seems appropriate for CCMAS to consider the following course of action. The delegate of Norway had proposed in order to clarify, in relation to the lot, the concept of average net contents already decided upon by the Codex Committee on Food Labelling, and accepted by the Codex Alimentarius Commission:
- (a) The average content of the units of the lot shall be equal to, or greater than the declared contents.
 - (b) The control of average net contents should be supported by quality control programmes based on sound statistical concepts agreeable to the importer and with relevant data available at his request.

These two proposals were supported by the Working Group.

7. The Working Group recognized the importance of tare determinations in developing a sound and workable net content sampling programme for prepackaged foods destined for international trade. The Working Group suggested that decisions regarding what constitutes a tare or tare material should be the responsibility of the appropriate Codex commodity committee. For example, a portion of the contents of a prepackaged food item may be a non-nutritious packing medium such as brine or water. The appropriate commodity committee should determine whether or not such a liquid is to be designated as tare material.

8. The Working Group had been requested by the Committee to consider the question of the meaning of the two levels of sampling when addressing visual defects in the proposed amendment to the Sampling Plans for Prepackaged Foods in relation to the role of Codex sampling plans in general (CX/MAS 82/9). There was a general consensus in the Working Group that the use of two levels is a viable system in the application of sampling plans in order to allow for various circumstances, especially in the case of a dispute or controversy. This opinion is in agreement with procedures outlined in the Codex Sampling Plans, (CAC/RM 42-1969).

9. The Codex Committee on Cereals, Pulses and Legumes had requested that the CCMAS review the document CX/CCP 81/5 - Moisture Content in Cereal Grains and Milled Cereal Products for appropriateness of the sampling plans. This document had been referred to the Working Group for evaluation.

The Working Group concluded that, because of the many complex issues inherent in the document, it could not be adequately evaluated within the time constraints of the Working Group. Member delegates of the Working Group agreed to review and comment on the appropriateness of the document and to return the responses to the Chairman of the Working Group, who will collate the responses and submit a recommendation to the Secretariat. The responses are to be received by the Working Group Chairman by the end of March 1983.