

codex alimentarius commission

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REPORT OF THE FIFTEENTH SESSION OF THE
CODEX COMMITTEE ON METHODS OF ANALYSIS AND SAMPLING

Budapest
10-15 November 1986

Includes also the Report of the
Sixth Inter-Agency Meeting,
Budapest, 6-7 November 1986

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INTRODUCTION

1. The Codex Committee on Methods of Analysis and Sampling held its Fifteenth Session from 10-15 November 1986 in Budapest, by courtesy of the Government of Hungary. The Session was opened by Dr. K. Sütő, 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, Professor, Department of Biochemistry and Food Technology, Technical University, Budapest.
3. The Session was attended by delegates from 27 countries and observers from 9 International Organizations. The list of participants, including officers from FAO, is attached as Appendix I to this Report.

ADOPTION OF THE AGENDA

4. The Committee adopted the Provisional Agenda without any change.
5. It was agreed that a new Working Group of Experts on Analysis should be established to discuss the various methods submitted by Codex Committees for endorsement. The Working Group was requested to ensure that the methods to be included in Codex Standards would be selected on the basis of the Codex criteria. Dr. W. Horwitz (USA) agreed to act as Chairman of the Working Group. Dr. N. Rao-Maturu (FAO) was requested to act as Secretary of the Group.
6. The Committee agreed that there was no need to set up a Working Group on Sampling and that all questions relating to this topic should be discussed in plenary session.

APPOINTMENT OF RAPORTEURS

7. The Working Group of Experts on Analysis was invited to appoint a Rapporteur who would assist in the preparation both of the Report of the Working Group and of the Committee. The Working Group appointed Mr. G. Diachenko (USA) as Rapporteur. As regards sampling, the Committee appointed Dr. Paul Khan (USA) as Rapporteur, assisted by Dr. W. Dubbert (USA). Mr. E. Nouat (AFNOR, ISO) agreed to assist in the preparation of the French version of the Report.

MINUTE'S SILENCE IN MEMORY OF MR. J.A. YERANSIAN

8. The Committee noted with deep regret that Mr. Yeransian, former member of the US delegation, had recently passed away. Mr. Yeransian had attended many sessions of the Committee and had been appreciated for his contribution to the work of the Committee as a practical and experienced specialist in food analysis. The Committee observed a minute's silence in memory of Mr. Yeransian.

MATTERS OF INTEREST TO THE COMMITTEE

9. The Committee had before it Working Paper CX/MAS 86/2 containing matters of interest arising from the 16th Session of the Commission and from various Codex sessions. The Committee noted that the Commission had endorsed the recommendations of the Committee regarding the status of Codex methods of analysis in relation to the Codex Acceptance Procedures. The Committee noted that Codex reference methods should be selected with care since they were intended to be adopted by Governments for use in settling disputes regarding results of analysis.

10. The recommendation of the Commission that the Committee give consideration to the needs of developing countries when selecting Codex methods of analysis and that "simple" methods of analysis should be identified for the guidance of developing countries, was noted. Some felt that consideration should be given to elaborating further on the concept of "simple" methods, noting that the Codex Committee on Pesticide Residues had also attempted to clarify this matter. The Secretariat explained that the Commission had wished the Committee to consider available laboratory facilities in developing countries when selecting obligatory Codex methods of analysis. In addition, the Commission had wished to indicate for developing countries methods of analysis with adequate performance characteristics which could be used in laboratories equipped with normal instrumentation. The Committee agreed to consider this matter at a future session.

11. As regards matters of interest arising from the various Codex Committees, the Committee received a report on these from the Secretariat. It was agreed to take up the various matters arising from Codex Committees under the appropriate agenda items. The Working Group of Experts on Analysis was requested to look into a number of technical matters.

CONSIDERATION OF THE SIXTH INTER-AGENCY MEETING (IAM)

12. The Committee had before it the Report of the Sixth Inter-Agency Meeting which met in Budapest from 6-7 November 1986 (see Appendix IV).

13. Mr. K.-G. Lingner (ISO), Secretary of IAM, gave a report on the discussions and conclusions of IAM. The Meeting had discussed ways and means of developing an internationally agreed protocol for collaborative studies in validating methods of analysis and had made recommendations for improving international cooperation in the field of methods of analysis and sampling. It had agreed that exchange of information concerning on-going or proposed collaborative testing of methods should be improved and had recommended a standard minimum amount of information which should be included in announcements. Various publications such as the Food Laboratory Newsletter issued by the Swedish Food Administration and the "Referee" of the AOAC were identified as means of disseminating information on collaborative testing. The Meeting had also received reports from the various International Organizations concerning action taken by them in developing or identifying methods of analysis required by Codex. The Meeting had also discussed the question of harmonisation of terminology relating to analysis, sampling and collaborative studies. The Codex Secretariat had been invited to prepare a paper for the next session of IAM indicating precisely the needs of Codex for methods of analysis and sampling.

14. The Committee welcomed the new developments concerning the harmonisation of the approach to collaborative studies. The question was raised whether participation in this exercise by Governments would be possible. Dr. Horwitz (USA) explained that a special meeting would be held in Geneva (March 1987) to discuss details of collaborative testing. This meeting was being organized by interested International Organizations and was intended to be a working meeting of experts. It was hoped that a set of definite decisions on how to conduct collaborative studies and to analyse statistically the results of analysis, would be the output of the working meeting. The conclusions of the meeting would be referred to the IAM for endorsement and to the CCMAS for consideration. It was at that point that Governments could express their views on the harmonised protocol on collaborative testing through the mechanism of the CCMAS.

15. The Committee noted that the original stimulus for the harmonisation of collaborative testing of the performance of methods of analysis arose from the requirement in the General Principles for the Selection of Codex Methods of Analysis that only those methods were appropriate to be considered as Codex methods which had been validated in appropriate collaborative tests. The efforts of International Organizations in harmonising the approach to collaborative testing was a response to this requirement. The Committee agreed with the conclusions of the IAM regarding the need for harmonisation of the method of collaborative testing and for greater international collaboration and exchange of information in this respect.

16. The Committee was informed that the IAM had suggested that International Organizations specialised in certain groups of food commodities might be usefully involved in reviewing Codex methods of analysis. The Committee had a discussion of this proposal, noting that there were two aspects involved in reviewing Codex methods of analysis and sampling. On the one hand, the interested International Organizations would review their own methods and bring them up-to-date in the light of developments in the field of analysis. On the other hand, the appropriate Codex bodies would be called upon to handle the selection of Codex methods and the revision of Codex standards.

17. The Committee agreed that there was a need to ensure that Codex methods were appropriate for the purpose for which they were intended and that they were reviewed periodically, in order to reflect developments in the field of analysis. This represented a significant task requiring appropriate resources. The appropriate Codex Commodity Committees should have the responsibility for this review process and should collaborate closely with the interested International Organizations. Where Codex Committees had adjourned sine die, the national Secretariat of the Codex Committee concerned and the central Codex Secretariat had the responsibility to initiate action and carry out the necessary steps. Interested International Organizations should be called upon to assist in the task of reviewing Codex methods of analysis.

18. The representative of IUPAC indicated that IUMS (International Union of Microbiological Sciences) had close working relationship with the Codex Committee on Food Hygiene and should be invited to meetings of IAM. The Secretariat of IAM agreed to extend an invitation to the IUMS.

19. The Committee noted that the IAM had discussed the question of harmonisation of terminology used in the field of sampling and analysis. It was informed that the special working meeting on collaborative studies mentioned above (para 14) would develop terminology in that field and that Mr. E. Nouat (AFNOR) had also agreed to prepare a working paper for the next session of IAM. This paper would be a comparative study of terminology in an attempt to identify differences of substance. The Committee

was of the opinion that harmonisation of terminology was desirable. Although this did not mean that definitions of terms should be textually identical, they should not differ in substance.

20. The Committee expressed its appreciation to the IAM and also to its Chairman, Mr. G. Castan (AFNOR), and its Secretary, Mr. K-G. Lingner (ISO), for their valuable contribution to the work of the CCMAS.

INSTRUCTIONS ON CODEX SAMPLING PROCEDURES

21. The Committee had before it the Instructions on Codex Sampling Procedures (the "Sampling Instructions") (CX/MAS 86/3) developed by the Inter-Session Working Group on Sampling and Government comments thereon (CX/MAS 86/3-Add. 1). Discussions on the topic of sampling were led by the Chairman of the Working Group, Dr. R. Wood (UK). The Committee agreed to discuss the Sampling Instructions in detail so that they could be finalized at the present session.

22. The Committee had general discussions on the document. It was noted that the Sampling Instructions were intended for Codex Committees and those developing sampling plans for the control of foodstuffs. They did not represent technical procedures for sample procurement but gave guidance on the selection of statistical plans and the interpretation of compliance of consignments of food moving in trade. It was noted that the question of whether Codex sampling plans should be advisory or obligatory was still open and would be discussed later in the agenda. The delegation of Switzerland stressed that the issue to be considered in relation to the choice of sampling plans was to ensure that adequate protection be provided for the producer and the consumer, i.e. that judgement of the consignment could be made at an acceptable level of confidence. Codex specifications should indicate the minimum level of confidence for the purposes of international trade. It might be sufficient to specify only levels of risk, on the basis of which sampling plans could be easily established. The question was also raised as to how specific Codex sampling procedures should be.

23. The Committee had detailed discussions on the Sampling Instructions in the light of the written comments received from Cuba, Czechoslovakia, Federal Republic of Germany, France, Switzerland, Thailand, USA and Sweden. Comments were also made from the floor. The Committee made a number of amendments to the Sampling Instructions and requested the Secretariat to finalize the text editorially, in cooperation with the Chairman of the Working Group.

24. It was agreed that the Sampling Instructions (CX/MAS 86/3) 1/ adopted by the Committee should be submitted to the Commission for endorsement. The published text should be distributed to Codex Commodity Committees and to Governments. Codex Commodity Committees (or where a Committee had adjourned sine die, the National Secretariat of that Committee) should be requested to use the Sampling Instructions in their review of Codex standards regarding sampling or in the selection of appropriate sampling plans in the development of Codex standards. As regards further details concerning the review of Codex standards with regard to sampling see para 85 of this report. The Committee agreed

1/ To be published in a revised form early 1987.

that Codex Commodity Committees should be urged to set up appropriate mechanisms (eg Working Groups etc.) in order to apply the Sampling Instructions, as far as possible, in the selection of Sampling plans. Where this was not possible, Codex Committees should be requested to indicate reasons why the Sampling Instructions were not considered to be applicable. The Committee also agreed that the Sampling Instructions would be appropriate as a model on the basis of which governments could develop their own sampling plans, leading to a harmonization of the approach to checking compliance of foods moving in trade.

DEFINITIONS OF TERMS USED IN SAMPLING

25. The Committee discussed the development of appropriate terms used in sampling on the basis of a document prepared by ISO and government comments received on the terms included in the Sampling Instructions (CX/MAS 86/3-Add.1).

26. It was agreed that terms used in sampling were required by Codex for the purposes of the Sampling Instructions. In considering the various terms included in document CX/MAS 86/3, the Committee took into account the comments received and followed, as closely as possible, existing ISO definitions. The adopted definitions are contained in the Sampling Instructions (see para 21). It was noted that the definitions adopted by the Committee did not differ in substance from those used by ISO.

27. The Committee noted that the Inter-Agency Meeting (see para 12) was also considering the question of harmonization of terms used in methods of analysis and sampling. It did not consider that the adoption of the Codex terms for sampling mentioned above conflicted in any way with the attempts to harmonize terms by International Organizations. It was expected that the results of such harmonization attempts would be made available to the Committee at a future session.

REVIEW OF METHODS OF SAMPLING IN CODEX STANDARDS

28. The Committee considered a report prepared by an FAO consultant (CX/MAS 86/8) setting out the problems which related to the review of Codex standards with a view to completing them with appropriate sampling plans and criteria for lot acceptance. The paper discussed the need for a standard, harmonized approach for sampling and also illustrated how the Sampling Instructions could be applied to Codex standards. The paper gives an example of how Codex standards might be amended as a result of the application of the Sampling Instruction.

29. The delegation of the USA was in general agreement with the conclusions contained in the consultant's report and suggested that the paper should be used by Codex Commodity Committees in selecting sampling procedures for inclusion in their standards. It would be desirable to set a time frame during which a review of Codex standards should be carried out. The delegation of France was of the opinion that the question of whether Codex sampling procedures were advisory or obligatory should be settled.

30. The delegation of Australia supported the views of the USA. As regards the question of the mandatory or advisory status of Codex sampling procedures, the delegation was of the opinion that it would not be possible to have mandatory sampling procedures in all cases. In certain cases advisory sampling procedures might be more appropriate. There should be temporary endorsement of existing sampling plans with a "sunset" provision for say, five years. In that time all Commodity Committees would submit to this Committee new sampling plans complying with the Sampling Instructions produced and endorsed at this 15th Meeting, unless specific reasons for exception were advanced. The delegation of The Netherlands also supported the suggestion of the USA and queried how the review process would be applied where Codex Committees had adjourned sine die.

31. The delegation of Switzerland was of the opinion that Codex sampling procedures should only be obligatory for situations of dispute. It expressed the opinion that sampling for net contents should take into account the work being carried out by OILM. The Secretariat noted that the revised Codex General Standard for the Labelling of Pre-packaged Foods contained a requirement for the mandatory declaration of net contents and drained weight (where appropriate). This requirement applied to all commodities and called for a general approach to sampling for the verification of net contents and drained weight. On the other hand, such requirements as minimum fill in certain Codex standards were already subject to sampling in accordance with the Codex Sampling Plans for pre-packaged Foods (CAC/RM 42-1969).

32. The Committee agreed that the Secretariat should distribute document CX/MAS 86/8 together with the conclusions of the FAO consultant in respect of the various groups of food, to Codex Commodity Committees with the request that a review of all standards elaborated by them be carried out in respect of sampling. It was also agreed that a general approach to sampling for net contents and drained weight should be developed. In this connection, the work of OILM was noted. Codex Commodity Committees were urged to proceed at the earliest possible opportunity with the review of their standards. Where Codex Committees had adjourned sine die the national secretariat should be requested to take early action. It was hoped that the review would be completed within 2 sessions of the CCMAS. Concerning the question of the advisory or obligatory status of Codex methods of sampling, the Secretariat was requested to prepare a paper on this subject for the next Session. Any conclusions reached at that time would be referred to the Codex Committee on General Principles for advice.

SAMPLING PLANS FOR CONTAMINANTS

33. The Committee had before it a paper prepared by the Secretariat on the need to develop sampling plans and lot acceptance criteria for provisions for contaminants already adopted by the Codex or still to be developed (CX/MAS 86/5).

34. In introducing the paper, the Secretariat pointed to the various groups within Codex which had responsibility for the development of maximum limits for contaminants in food. So far, Codex had developed maximum limits for contaminants arising from food processing (eg. As, Pb, Sn, Zn, Cu, Fe, CAC/VOL.XVII, Ed.1) and for pesticide residues (CAC/PR 2-1986). While sampling plans and acceptance criteria existed for pesticide residues (CAC/VOL.XIII Ed.2), none had been developed for any other contaminants. The Secretariat suggested that, in view of the diversity of the nature of the various contaminants and foods in which they were present, no single approach for all contaminants appeared to be possible. It would, therefore, be opportune to consider first those contaminants for which Codex maximum limits existed (see CAC/VOL.XVII Ed.1).

35. The question was raised as to which Committee might deal with the question. The Secretariat indicated that, at the present, this matter was within the terms of reference of the Codex Committee on Food Additives. However, the question of the establishment of a separate Codex Committee to deal with contaminants (except pesticide and veterinary drug residues) would be discussed by the forthcoming session of the Commission.

36. The question also arose whether the Sampling Instructions would be applicable to contaminants. The delegation of the USA expressed the view that they would be applicable to contaminants, including veterinary drug residues. The delegation of Australia suggested that the conclusions of the FAO consultant as contained in document CX/MAS 86/8

might be regarded as a first approach on which government comments could be sought. The delegation of Switzerland suggested that for contaminants with acute toxicity, special sampling plans should be developed, while other contaminants could be treated as compositional criteria. The delegation of Poland did not share this view and was also of the opinion that special sampling plans should be envisaged for contaminants as health related criteria and should not be dealt with as compositional criteria as proposed in paper CX/MAS 86/8.

37. In view of the fact that the question of sampling for checking compliance with provisions for contaminants in Codex standards would be dealt with during the review of Codex standards in connection with sampling procedures, the Committee agreed that the following approach be adopted:

- a) For the time being, only those contaminants for which Codex maximum limits had been recommended in individual Codex Commodity Standards should be considered with a view to developing sampling procedures and criteria for lot acceptance;
- b) Codex Commodity Committees should consider the question of sampling for contaminants in the light of the Sampling Instructions (see procedure where Codex Committees have adjourned sine die in para. 24).
- c) The views of the Codex Committee on Food Additives should be sought in order to check for any implications relating to health; and
- d) Any sampling procedures developed for contaminants should be seen as a general issue and it should be the role of the CCMAS to ensure that a consistent approach will be followed, as far as possible, in the development of sampling plans for contaminants in food.

GUIDELINES ON ADMINISTRATIVE ASPECTS OF SAMPLING

38. The Committee had before it a paper prepared by the Secretariat (CX/MAS 86/4) describing the work of Codex in the field of sampling and also dealing with the question of administrative aspects of sampling, as requested by the Committee. In introducing the paper the Secretariat expressed the opinion that the Committee should consider whether work on such questions, in addition to statistical sampling plans and criteria for lot acceptance, should be carried out by the Codex. If considered necessary, the Committee should discuss as to how such guidelines should be developed. The Secretariat was of the opinion that other Organizations, for example ISO, might be invited to assist in the development of the guidelines in view of the large amount of information and other material processed by this Body. It was noted that the subject and the need for such guidelines had been discussed by this Committee at intervals and as long ago as the 4th Session in 1968.

39. The delegation of Australia, supported by the Delegation of Switzerland and the Representative of ISO, was of the opinion that administrative guidelines should be elaborated. The guidelines should cover such administrative (including legal) aspects as mentioned in para 26 of the paper (CX/MAS 86/4) which might be useful to discuss internationally and to formulate into guidelines for use by governments. It was pointed out that guidelines of this nature could be very detailed, since a variety of legal and procedural problems as well as technical questions could be covered. On the other hand, it was noted that the guidelines could be restricted in scope by including in them only those provisions which ought to be subject of international agreement with a view to avoiding difficulties in trade arising from diverging practices in the application of sampling procedures.

40. The Committee agreed that a Working Group be set up to consider this question. The Working Group consisted of France, Hungary, UK, USA, ISO and FAO. The Group was requested to prepare guidelines dealing with administrative and related questions as outlined above, for the next session. Dr. Wood (UK), previous Chairman of the Inter-session Working Group on Sampling, was requested to coordinate work in this field, with the assistance of the Secretariat.

ENDORSEMENT OF METHODS OF SAMPLING IN DRAFT CODEX STANDARDS

A. Sampling Plans for Frozen Fish Blocks

41. The Committee had before it document CX/MAS 86/6-Add.1. The Chairman of the Working Group on Alternative Sampling plans for Fish Blocks, Dr. A.P. Rainosek (USA), indicated that this document contained a report of a working group which had been convened during the 17th Session of the Codex Committee on Fish and Fishery Products in order to finalize the sampling plans for frozen fish blocks. The paper also contained the revised sampling plans adopted by the Codex Committee on Fish and Fishery Products. These sampling plans, which had been developed strictly in accordance with the draft Instructions on Sampling (CX/MAS 86/3), represented a practical approach to sampling fish blocks which was expected to be followed immediately by major fish producing and exporting countries. The sampling plans were probably intended by the Codex Committee on Fish and Fishery Products to be mandatory.

42. The Committee also had before it comments submitted by France on the sampling plans for fish blocks in which a sequential sampling procedure was proposed. During the Session, the Chairman of the Working Group (Dr. Rainosek, USA) distributed a working paper in response to the French comments. In introducing his paper, Dr. Rainosek explained that the principal motivation for the suggestion by France of a sequential sampling method by attributes was that the average sample size may be less than that required by the corresponding AQL/RQL single sampling. While sequential sampling may be suitable for judging exceptionally "good" or "bad" lots, the "in-between" lots were more difficult to judge by this method. Sequential sampling may be optimal for in-plant control rather than for food moving in trade, as it suffered from several disadvantages pointed out in the working paper prepared in response to the French remarks.

43. The Committee noted the above explanation and the fact that the Codex Committee on Fish and Fishery Products had been unanimous in the adoption of alternative sampling plans for fish blocks. A number of delegations expressed themselves in favour of the sampling plans developed by the Codex Committee on Fish and Fishery Products. The Committee, therefore, endorsed the sampling plans for frozen fish blocks as contained in document CX/MAS 86/6-Add.1. It expressed its appreciation to Dr. Rainosek and members of the Working Group for their cooperation in developing the sampling plans. The Committee noted that these sampling plans represented the first example of a Codex Committee developing practical and internationally acceptable sampling procedures on the basis of the Codex "Instructions".

B. Sampling Plans for Food Grade Salt

44. The Committee had before it the Sampling Plan for Food Grade Salt developed by a Working Group of the Codex Committee on Food Additives (CX/MAS 86/7-Part 1) and comments on the sampling plans from the USA (CX/MAS 86/7-Add.1) and France (Room Document).

45. The delegation of the USA was of the opinion that the Sampling Plans proposed by the Codex Committee on Food Additives required further clarification. For example, the plans required that five laboratory samples be taken from the bulk sample and analyzed separately. The average of the results of these separate analyses, together with a standard deviation and confidence level specified in the plan, was recommended for use to check compliance with the provisions of the standard. The analysis of the five laboratory samples would provide an estimate of analytical uncertainty, whereas sampling plans were intended to measure sampling uncertainties. This ability of the sampling plans was lost by combining all single samples in a bulk sample. In the opinion of the USA, if analytical variability could be shown to be substantially larger than sampling variability (e.g. three times greater) the sampling procedure proposed might be accepted. However, it was not possible to determine the acceptability of the plans unless data to support the above were provided to the CCMAS. The USA also questioned whether the use of a two-sided "t" test was appropriate and suggested a one-sided test with a value of 2.132 and that in the evaluation criteria the + and - signs should be interchanged. The representative of ECSS was in agreement with the US comments.

46. The Secretariat, in conveying the opinion of the Chairman of the Working Group which had developed the Sampling Plans for Salt, indicated that, while salt was a homogeneous product as regards its composition, bulking of individual samples involved large quantities of product which made it difficult to guarantee complete homogeneity of the bulk sample. It is for this reason that five analyses of the bulk sample had been proposed.

47. The Committee, having noted the comments of the USA and other comments from the floor and also having noted the written comments of France distributed during the Session, agreed that the Codex Committee on Food Additives be asked to reconsider the sampling plans taking into consideration the Sampling Instructions adopted by the Committee and the written comments submitted to the CCMAS. The CCFA was requested to provide information on the points listed below and also to consider whether all the details included in the method of sampling for salt (e.g. sections dealing with general arrangements, etc.) were necessary. Information required by the CCMAS:

- a) Sampling variability, that is, variability in the single samples taken from the lot which comprise the gross sample;
- b) Variability in the distinct "quota" or laboratory samples taken from the gross sample;
- c) Variability in the replicate analyses conducted on the analytical sample.

C. Sampling Plans for Procedures in Other Draft Codex Standards

48. The Committee considered the endorsement en bloc of the Sampling Plans for Pre-packaged Foods (CAC/RM 42-1969, as amended) for the verification of visual defects and other quality criteria as specified in the individual Codex standards. It recalled that, at previous sessions, it had postponed endorsement of the Sampling Plans pending a

number of issues being clarified and pending the completion of the Sampling Instructions (see para 21).

49. The point was made that it would have been preferable if all Codex standards had provisions for sampling in conformity with the Sampling Instructions. As it would not be practical to amend all the Codex standards in which the Sampling Plans (CAC/RM 42-1969) had been included, it was agreed that, henceforth, all new standards previously adopted containing reference to the Sampling Plans for Prepackaged Foods should be reconsidered in the light of the Sampling Instructions.

50. Pending a complete review of sampling plans included in Codex Standards, the Committee agreed to endorse the Sampling Plans for Prepackaged Foods for all standards in which reference to them had been specifically included. However, it was agreed that endorsement of the plans would apply only to the quality criteria actually specified in the Codex standards in sections dealing with the acceptance of lots. As regards reference to the Sampling Plans for Prepackaged Foods included in the section on methods of analysis and sampling in Codex standards, the Committee was of the opinion that this should be re-drafted in such a way as to indicate clearly the quality and other criteria to which the Sampling Plans apply. In this respect, the efforts of the FAO consultant in reviewing Codex standards in relation to appropriate sampling plans and lot acceptance criteria were noted (see para 28).

51. The Committee noted that working paper CX/MAS 86/7-Part II contained a number of sampling provisions which required endorsement. Some of these sampling procedures represented technical guidelines, while others were simple mathematical schemes which were not necessarily in conformity with the requirements of the Sampling Instructions. It was decided to set up a small Working Group to discuss these sampling provisions and also the provisions for sampling in the draft standard for Table Olives (CX/MAS 86/7-Part II-Add.1) during the session to advise the Committee on what action should be taken regarding their endorsement. The following delegations agreed to take part in the Working Group: the USA, the Federal Republic of Germany, Australia and the United Kingdom, Norway and Canada.

52. Dr. R. Wood (UK), Chairman of the Working Group (see para 51), informed the Committee of the conclusions reached by the Working Group concerning the endorsement of the various provisions. The report of the Working Group is given as Appendix II to this report. The Committee agreed with the conclusions of the Working Group.

LIMIT OF DETERMINATION - DEFINITION AND REGULATORY IMPLICATIONS

53. The Committee had before it a paper prepared by the USA with the assistance of the Secretariat (CX/MAS 86/9) in response to a request made at the last session of the Committee. In introducing the paper the Secretariat indicated that it covered the following topics:

- a) Definition of the terms "limit of detection" and "limit of determination";
- b) The regulatory implications of the use of the concept "limit of determination"; and
- c) The possible need to amend the criteria for the selection of Codex methods of analysis by the inclusion of the "limit of determination" as a criterion for the evaluation of a Codex method of analysis rather than the "limit of detection".

54. The Secretariat indicated that one regulatory implication of the "limit of determination" was that methods of analysis selected for regulatory purposes should operate well away from the "limit of determination" so as to ensure that the results of analysis using the method would be acceptable. However, in a number of circumstances Codex recommendations would be expected to be made for amounts of substances to be measured at extremely low levels close to the "limit of determination" (e.g. pesticide residues, veterinary drug residues, contaminants, processing aids, etc.) In these situations the "limit of determination" of a method would have regulatory implications. Another, and more important, regulatory implication related to the widely used legal provision that a given substance be absent in a food or that it be present at a level equal to zero. Such provision under the law represented difficulties for trade and was scientifically unsound.

55. The delegation of the United Kingdom informed the Committee that the Analytical Methods Committee's statistics Sub-Committee of the Royal Society of Chemistry of the UK had considered the question of cooperative trials and had recommended during its consideration the use of the term "limit of detection" rather than the term "limit of determination". A report of the Sub-Committee on the use of this term would be published in the near future. The delegation of the USSR expressed the view that the meaning of the terms in question should be discussed so that agreement can be reached on the substance of the concepts of "limits of detection and determination". There was a need to define these concepts in precise mathematical terms. The delegation of the USSR proposed that they be defined as representing an absolute quantity of the test substance in an analytical portion prepared for analysis rather than as a concentration. In support of this proposal the delegation distributed a working paper during the session and requested that this paper be appended to the report so that comments could be obtained on it. A Working Group could be set up to discuss this new approach to defining "limit of determination" of the purposes of Codex methods in the light of comments received.

56. The Committee also had before it a technical paper distributed by the delegation of Czechoslovakia during the session. The delegation of the USA pointed out that the question of defining concepts such as "limit of determination" was a rather complicated one which could not be considered by the Committee at the present Session. From a regulatory point of view, the "limit of determination" had to be seen as a degree of uncertainty which could be accepted for the purposes of checking compliance with legal provisions relating to the safety and quality of food.

57. The Committee agreed that there was a need to define the term "limit of determination" and that it was this concept which was relevant for the purposes of Codex. It also agreed that an exact definition of the term could not be agreed on at this session and that the views of specialists should be sought. It agreed that the paper of the Secretariat and the papers submitted by the USSR and Czechoslovakia should be circulated for comments so that the question could be discussed at the next session. The Committee also agreed that the concept of "zero provision", i.e. requirements that substances be totally absent in foods was scientifically unsound. It was preferable in the interest of facilitating trade to specify numerical limits as was practised by the Codex Committee on Pesticide Residues.

REVIEW OF METHODS OF ANALYSIS INCLUDED IN CODEX STANDARDS

58. The Committee received a report by Australia indicating the status of endorsement of all Codex methods of analysis and sampling included in Codex standards and draft standards (CX/MAS 86/10-Parts I and II). The listing of the methods, which is on

computer in Australia, served to identify all decisions taken so far regarding the endorsement and classification of methods of analysis included in Codex standards. It also served to identify provisions which still required methods to be developed or selected. It was clear from the Australian report that the review of Codex methods of analysis was progressing satisfactorily. However, a number of Codex Committees had not yet initiated the review of the methods of analysis included in their standards.

59. The Committee noted that the Inter-Agency Meeting had been made aware of the above documents and that it had recommended that methods of analysis required by Codex be identified more precisely and with supporting information for the guidance of International Organizations. The Committee also noted that the Working Group of Experts on Analysis had reviewed the above papers as part of its responsibility for the endorsement of methods of analysis (see para 60). The Committee encouraged Codex Commodity Committees to ensure that Codex methods would be kept up-to-date in the light of developments in the field of analysis. It expressed its appreciation to Australia for preparing the above documents and for making computer facilities available to the Committee.

REPORT OF THE WORKING GROUP OF EXPERTS ON ANALYSIS

60. The Committee had before it documents CX/MAS 86/10 Parts I and II, CX/MAS 86/11, CX/MAS 86/11-Add.1 as well as Room Document 2 - Report of the Working Group of Experts on Analysis which had been set up at the previous Session and which was reappointed at the present Session (see para 5). Dr. W. Horwitz, Chairman of the Working Group presenting its report informed the Committee that, while reviewing the methods of analysis included in the various documents with a view to endorsement, the group had not considered i) any sampling methods, including those for visual defects and mechanical sampling ii) methods for special dietary foods iii) methods for food grade salt and iv) methods of analysis which had been endorsed earlier by the Committee. He thanked the delegation of Australia for having undertaken the task of compiling the documentation considered by the WG on the present status of endorsement of Codex methods. The Report of the Working Group of Experts is included as Appendix III to this report.

a) Improvement of Presentation of the Documents

61. The delegation of The Netherlands was of the opinion that the presentation of the documents on methods of analysis would be considerably improved if the actual reference to the method were given instead of reference to the Codex document in which the method was published.

b) Revision of Methods of Analysis in Codex Standards for Sugars

62. The Committee noted with satisfaction that the second draft of the revision would soon be finalized by the UK secretariat, after taking into account the comments so far received from governments. The second draft would be sent out for comments to governments and would also be on the agenda for the next session of CCMAS together with the comments received.

c) Classification of Methods for the Determination of Protein

63. The delegation of the UK raised the question whether the conclusion of the Working Group that the determination of protein could be classified as both Types I and II was in conflict with the General Principles for the Establishment of Codex Methods of Analysis, i.e. with the Classification of Codex Methods of Analysis. The Committee noted that it would have at its next session a document by Mr. R. Kirk of UK on guidelines on the classification of methods as Types I and II and expressed the view that the paper may also clarify the point raised by the delegation of UK mentioned above.

d) Determination of Fatty Acids at Position 2 for Olive Oil

64. While supporting the conclusion of the Working Group that saturated fatty acids at position 2 should be expressed as a percentage (m/m) of the total fatty acids at position 2, the Committee noted that the subject was also on the agenda for discussion by the Codex Committee on Fats and Oils.

e) Results of Collaborative Studies for the Determination of total nitrogen, creatinine and α -amino nitrogen in Bouillons and Consommés

65. The Committee noted that, in presenting the results of collaborative studies contained in document CX/MAS 86/11-Add.1, the authors had followed to the smallest detail the check list of information required for the endorsement of methods of analysis submitted to the CCMAS. Submission of data in this format, the Committee noted, made it easy for the Working Group to assess the studies and to endorse the methods. The authors of document CX/MAS 86/11-Add.1 were commended for their efforts.

f) Some Questions arising during the Endorsement of Methods of Analysis

66. The Committee noted that the Working Group had endorsed two Type I (defining) methods (Rose Gottlieb method and Weibull method) for the estimation of fat in edible ices and ice mixes. Since, according to the General Principles for the Establishment of Codex Methods of Analysis, two Type I methods could not be recommended, the Working Group had classified one of the two methods (Weibull method) as Type III. This action was questioned by the delegation of the UK. The Committee was informed by the Secretariat that such action would seem to be justified on the basis of the obligations regarding the use of Type I and III methods. While method classified as Type I should always be used in cases of dispute, the other defining method classified as Type III, could be used for routine purposes provided it was calibrated against the Codex Type I method. The delegation of the UK expressed the view that this matter should be referred to the Codex Committee on General Principles. The Committee agreed that Mr. Kirk's paper (see para 63) should also consider the question raised by the UK.

67. Referring to the methods of analysis for the determination of heavy metals applicable to all foods elaborated by the CCMAS, the delegation of the USSR proposed that in accordance with the General Principles for the Establishment of Codex Methods of Analysis, Codex Commodity Committees should consider inclusion of the general methods in the standards elaborated by them, rather than propose other methods, in order to bring harmony into the existing methodology. The delegation proposed and the Committee agreed to include the colorimetric method for the estimation of copper in food using diethyldithiocarbamate (AOAC (1984) 14th Ed., 25.066-25.071) as a Type III Codex method.

68. The delegation of the USSR also brought to the attention of the Committee that different procedures have to be adopted for ashing of foods depending on the nature of food, in order to ensure no loss of heavy metals during the process. It expressed the view that there was a need for standard methods of ashing which the Committee should elaborate. The Committee agreed with the proposal and invited the delegation of the USSR to prepare a paper on the subject for discussion at its next session. Comments from governments on the paper would be sought and the paper, along with the comments, would be placed before the next session of the Committee for discussion.

69. The delegation of the USSR also brought to the attention of the Committee that many of the earlier methods of analysis recommended by Codex had not been studied collaboratively. In a number of cases where they had been studied, the results of the studies had not been published. The delegation proposed that results of such collaborative studies, where available, should be submitted to the Committee for consideration. It commended AOAC for publication of the results of collaborative studies carried out under its auspices and proposed that all other international organizations should follow the procedure of AOAC.

70. The Committee, however, noted that it would be quite a difficult task for it to evaluate all the results of collaborative studies if submitted to it because of constraints of time and resources and reiterated that it would be enough for the purposes of endorsement if results of collaborative studies and other information were presented according to the check list (ALINORM 85/23, Annex I to Appendix II).

g) Updating of Document on the Status of Endorsements prepared by Australia

71. The Committee recommended that the document on the status of endorsements prepared by Australia (CX/MAS 86/10 Parts I and II) be updated in the light of the decisions taken by the Committee at the present session and of the references to all the updated methods that would be made available by International Organizations.

ESTABLISHMENT OF AN AD HOC WORKING GROUP OF EXPERTS ON ANALYSIS

72. The Committee supported the suggestion of the Working Group of Experts on Analysis that an intersession meeting of the Working Group should be held, since such a meeting would considerably improve efficiency in reviewing the numerous methods of analysis included in Codex Standards with a view to endorsing them.

73. The Committee thanked the Chairman and Members of the Working Group (see Appendix IV) and agreed that the Working Group should carry on its work between the end of this session and the end of the next session of the Committee. Other countries wishing to participate were advised to contact the Chairman of the Working Group, Dr. W. Horwitz (USA). It expressed appreciation to the delegation of Australia for having prepared the extensive documentation and to all the International Organizations interested in methods of analysis of foods for their continuing cooperation.

PROBLEMS OF DETECTION AND ESTIMATION OF INDIVIDUAL OILS/FATS IN MIXTURES OF OILS

74. In introducing paper (CX/MAS 86/12) prepared by India, the Secretariat informed the Committee that the problem of detection and estimation of individual oils in admixtures with other oils had always been a serious one in India and in many other developing countries and cited the following as examples of problems faced by India:

- a) Mixing of vegetable oils with animal fats for manufacture of hydrogenated fat (Vanaspati);
- b) Mixing of ghee (butterfat) with other fats; and
- c) Mixing of expensive fats and oils with other less expensive fats and oils.

75. Although the problem was one of food control (prevention of adulteration) and not food standardization, it was brought to the attention of the Committee since elaboration of rapid, sensitive and simple valid methods for the detection and estimation of individual oils was involved. Such methods would have implications for the efficiency of quality control of the oils being marketed.

76. The delegation of France brought to the attention of the Committee the comments of the French National Federation of Fats and Oils Industries. According to the Industry, document CX/MAS 86/12 contained methods which were not appropriate for inclusion in the Codex Alimentarius. Furthermore, the document made a number of suggestions concerning the marketing of mixtures of oils and fats containing traces of other fats which were unacceptable to the Industry. The delegation of France also brought to the attention of the Committee a number of proposals concerning qualitative and quantitative methods of analysis for various fats and oils which might be suitable for the detection of adulteration of these products.

77. The observer from ISO informed the Committee that the subject had been discussed at the 6th Inter-Agency Meeting. The subject had been considered very important but no easy solution could be offered. Quantitative methodology which is accurate enough is not available. At the Inter-Agency Meeting the Representative of IUPAC had agreed to assist in the development of qualitative methods for detection of individual oils in an admixture.

78. The delegation of The Netherlands brought to the attention of the Committee a standard on Gas Chromatography which contained supplements on sterol composition and tocopherol content of fats. The document was in Dutch but parts of the Supplement were available in English. It expressed the view that a study of the fatty acid, sterol and tocopherol composition could offer a solution for the quantitative estimation of individual oils in an admixture.

79. The delegation of the UK informed the Committee that the subject would be discussed at the next Session of the Codex Committee on Fats and Oils. It also informed the Committee that the ranges in the fatty acid composition of fats and oils included in Codex Standards would allow mixing of groundnut oil with soya bean oil even up to 10% without detection, since such mixtures would still fall within the fatty acid composition ranges. It was difficult to take a positive step for the quantitative estimation of individual oils in an admixture.

80. The delegation of Australia informed the Committee that the problem was not confined to developing countries but existed also in developed countries on both a small and a large scale. It expressed the view that the problem was of an economic nature. The chemistry of oils and fats was such that many industrial and domestic operations, such as "blending", could be performed to produce a product from a mixture which would comply with a legal specification for the more highly priced material. Such operations were not detectable using present analytical expertise and equipment.

81. The Committee noted that the problem raised by India in its paper was not an easy problem to resolve.

82. It held the view that the efforts being made by various Organizations, which have not yielded positive results so far, should not be given up and that such activity should be encouraged. It recommended that, in the absence of quantitative methodology, at least qualitative methods for the detection of individual oils in mixtures of oils should be developed.

FUTURE WORK

83. The Committee noted that endorsement of methods of analysis and sampling in Codex commodity standards would be an on-going activity. The review process for methods of analysis included in Codex standards resulting from a recommendation of the Committee and presently being carried out by Codex Commodity Committees was considered to be important and it was expected that there would be available for endorsement further reviews by Commodity Committees.

84. The Committee noted that many Commodity Committees had adjourned sine die and for such Committees the Committee expressed the view that work on periodical review of methodology should be undertaken by the host government in accordance with the agreed procedures.

85. The Committee noted that progress had been made in the field of sampling and that further work on sampling by Codex Commodity Committees, particularly the requirement that they review all their sampling procedures included in Codex Standards would represent significant future work.

86. The Committee noted that the Inter-Agency Meeting would continue to be held in association with future sessions of the Committee. Collaboration with the Inter-Agency Meeting also represented future work for the Committee.

OTHER BUSINESS

87. The delegation of The Netherlands informed the Committee that most of the documents for the present session had been received very late by the delegations and that considerable documentation had been made available at the Session as conference room documents. It requested the Secretariat to try to distribute the documentation for future sessions far in advance to facilitate active participation of the delegations.

88. The delegation of Cuba wished to ensure that the points raised by that delegation on the first day of the Session be reflected in the final report of the Committee, as follows:

"It is our opinion that the Codex Alimentarius Commission should continue its efforts towards the inclusion, in the main body of Codex Standards, of the methods of analysis which have been adopted by this Committee since, at times, developing countries cannot count on the availability of publications of International Organizations which have adopted these same methods.

We believe that this Committee should endorse this request and submit it to the Codex Committee on General Principles and to the next session of the Commission for their consideration.

In addition, we would like the possibility of the provision of Spanish at sessions of this Committee to be examined, as this would help to increase participation of Spanish speaking countries in the work of CCMAS."

DATE AND PLACE OF NEXT SESSION

89. The Committee was informed that the next Session of the Codex Committee on Methods of Analysis and Sampling might be held during the first half of 1988 in Budapest. The exact dates for holding the Session would be agreed by the 17th Session of the Codex Alimentarius Commission meeting in Rome in 1987.

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Report of the Ad Hoc Working Group on Endorsement of Sampling Plans in Draft
Codex Standards

An Ad Hoc Working Group discussed the endorsement of provisions for sampling in draft Codex standards contained in Documents 86/7 - Part II and 86/7 - Part II - Add. I. The Group (see Annex) reached the following conclusions:

a) Concerning sampling plans proposed by the Codex Committee on Processed Fruits and Vegetables (Canned Palmito, Canned Chestnuts and Canned Chestnut Puree, Canned Mangoes and Mango Chutney), the Working Group recommended the endorsement of sampling plans pending review by the appropriate Commodity Committee to clarify that the sampling procedures (CAC/RM 42-1969) referenced in the document apply only to commodity defects.

As regards Dates and Unshelled Pistachio Nuts the Group suggested to postpone endorsement, pending review, because there was insufficient information given in the document to allow endorsement.

b) As regards the sampling plans proposed by the Codex Committee on Vegetable Proteins, for Vegetable Protein Products, Soy Protein Products and Wheat Gluten and by the Coordinating Committee for Africa for gari, pearl millet, pearl millet flour, cassava flour and dessicated coconut, the Group agreed that there was insufficient information to endorse the sampling plans. If the standards referred to procedures for obtaining sample items, rather than actual sampling plans, then section 9.1 under each standard should be referred to as "procurement of sample items" rather than "sampling". The Group recommended that, when the administrative guidelines document is re-drafted, it should address the issue whether the CCMAS should consider procurement of sample procedures and the issue of allowing multiple methods of procuring samples.

c) Concerning the recommendations of the Codex Committee on Fish and Fishery Products, the Group endorsed the sampling plan in the Standard for Quick Frozen Blocks of Fish Fillet. As for the Standard for Quick Frozen Fish Sticks and the Standard for Dried Salted Fish, the Group also endorsed the sampling procedures with a recommendation that the term "unreasonable shortage in individual container" for weight be clarified.

d) As regards the recommendations of the Codex Committee on Cereals, Pulses and Legumes (sampling plans in the Standards for Certain Pulses, Sorghum Grains, Sorghum Flour, Durum Wheat Flour and Semolina, Wheat Flour, Maize, Whole Maize Meal and Degermed Maize Meal and Maize Grits), the Group agreed that there was insufficient information to endorse the sampling plans. If the standards referred to procedures for obtaining sample items rather than actual sampling plans, then the "sampling sections" should be referred to as "procurement of sample items".

e) In reviewing document CX/MAS 86/7 Part II-Add. I (Table Olives), the Group agreed that in Section 8.3.2 "maximum proportion", the text should read "maximum number" for appropriate comparison to the "rejection number". Furthermore, Section 8.3.2 provides for attribute plans with an AQL = 2.5%. However, on page 2 of the document, Section 10.1 indicates sampling in accordance with the Codex Sampling Plans for Prepackaged Foods (CAC/RM 42-1969), which does not include sampling plans with an AQL = 2.5%.

The Working Group noted that Section 8.3.1 (CX/MAS 86/7 - Part II - Add. I) referred to the evaluation of the sample mean which implied a type of variables sampling plan and not attributes as presented in the Sampling Plans for Pre-Packaged Foods.

The Working Group concluded that Section 10.1 incorrectly made reference to the Codex Sampling Plans (AQL 6.5). If variable plans with an AQL = 0.5% (0.005) and attribute plans with an AQL = 2.5% were referenced correctly, then the acceptance criteria in Section 8.3, in the opinion of the Group were pragmatically and statistically sound.

Additional comments on the sampling plans for Table Olives were submitted by the Federal Republic of Germany which gave information on the Draft EC proposal for drained weight.

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

1. The following Members constituted the Ad Hoc Working Group of Experts on Endorsement of Methods of Analysis:

CANADA	J.F. Lawrence
CHINA (People's Rep. of)	Hu Zheng-Zhi
FINLAND	H. Wallin
GERMANY (Fed. Rep. of)	W. Sanitz
HUNGARY	I. Boros
THE NETHERLANDS	P.W. Hendrikse J. Daenen
NORWAY	A. Vidnes
PORTUGAL	G. Carvalho
SPAIN	R. Sanchidrian J.M. Vallejo
SWITZERLAND	P. Venetz R. Gerber
UNITED KINGDOM	R. Kirk C. Usher
UNITED STATES OF AMERICA	W. Horwitz (Chairman) G. Diachenko (Rapporteur) E. Elkins A. Gross P.H. Vree
USSR	I. Skurichine
YUGOSLAVIA	D. Novicevic
AOAC - EUROPE AIIBP	M. Tuinstra-Lauwaars S. de Leeuw H.A.M. Hoek
FAO	N. Rao-Maturu (Secretary)
IFG	B. Whitehouse
IUPAC	P. Czedik-Eysenberg
ISO	H.W. Schipper E. Nouat

2. The Working Group, under the Chairmanship of Dr. W. Horwitz had the following tasks to perform:

(a) to consider endorsement of the methods of analysis reviewed and updated by certain Codex Commodity Committees.

(b) to consider endorsement of methods of analysis in certain draft Commodity Standards.

Appendix III (Cont.)

- (c) to consider certain matters of interest to the Committee presented in the matters of interest document CX/MAS 86/2.
- (d) to consider results of Collaborative Studies for the determination of total nitrogen and α - amino nitrogen in Bouillons and Consommés, and
- (e) revision of Methods of Analysis provisions in Codex Standards for Sugars.

3. The Working Group had the following documentation before it:

- (a) CX/MAS 86/10 Parts I and II containing Methods of Analysis and Sampling in Codex Standards including Methods of Analysis reviewed and updated by certain Codex Commodity Committees
- (b) CX/MAS 86/11 Endorsement of Methods of Analysis in Draft Codex Commodity Standards
- (c) CX/MAS 86/2 Matters of Interest to the Committee
- (d) CX/MAS 86/11-Add.1 Endorsement of Methods of Analysis in Draft Codex Standards - Results of Collaborative Studies for the determination of total nitrogen and α -amino nitrogen in Bouillons and Consommés.

Revision of Methods of Analysis Provision in Codex Standards for Sugars

4. The representative of the UK Secretariat for the Codex Committee on Sugars, Dr. R. Wood, informed the Committee that the preparation of the second draft of the revision of methods of analysis provisions in Codex Standards for Sugars was not finalized pending the convening of the next (last) session of ICUMSA during May 1986. ICUMSA has adopted a redefinition of the scale 100^oS as equivalent to 99.95^oZ. There is a need to study the revision of methods in the light of the redefinition of degrees S and degrees Z adopted by ICUMSA.

5. Dr. Wood assured the Committee that the second draft of the revision would soon be finalized by the UK Secretariat after taking into account the comments so far received from Governments. The second draft which would contain cross references to standards of other International Organizations would be sent out for comments to Governments. The second draft and the comments received will be discussed by the CCMAS at its next session.

Consideration of certain matters of interest to the Committee presented in the matters of interest document CX/MAS 86/2

Classification of Method for the Determination of Protein

6. CCMAS had reclassified ICC 105/1 - Method for the Determination of crude protein in Cereals and Cereal Products for Food and Feed as Type I method. The Working Group on Methods of Analysis attached to CCCPL at its last session recommended that CCMAS may wish to reconsider its classification of the Kjeldahl method from Type I to Type II (with specific factors in each standard) in view of the absolute nature of the procedure.

7. The WG reconsidered the question raised as above by CCCPL and expressed the view that the method could be classified both as Type I and Type II methods; in cases where the results are expressed as nitrogen, or as protein determined by using specific conversion factors, the method should be classified as Type II methods. In other cases where the nitrogen is expressed as protein using arbitrary factors (factors not specified) or using the general factor 6.25, the method should be classified as Type I. The Committee noted that CCPMP in its recent review of methods contained in the standards elaborated by it, had classified the method for the determination of Protein both as Types I and II. The Working Group requested Mr. R. Kirk of UK to develop a document of principles regarding classification of methods as Types I and II for consideration at the next session of CCMAS.

Determination of Fatty Acids at Position 2 in Olive oil

8. The International Olive Oil Council pointed out an error in the method of expression of the results for saturated fatty acids in position 2 in the Codex Standard for Olive Oil (Codex Stan. 33-1981). The present text in the standard reads as "The saturated fatty acids at position 2 mean the sum of palmitic (16:0) and stearic (18:0) acids expressed as a percentage (m/m) of the total fatty acids. In the view of the Olive Oil Council the text should be as it was in ALINORM 83/17 and should read as "The saturated fatty acids at position 2 means the sum of palmitic (16:0) and stearic (18:0) acids expressed as a percentage (m/m) of the total fatty acids at position 2".

9. The Working Group noted that ISO has an equivalent method (ISO 6800) to that of IUPAC (IUPAC Standard Methods for Analysis of Oils, Fats and Derivates, 6th. Edition 1979, section 2.210) for the determination of fatty acids at position 2 included in the Codex Standard for Olive Oil. The WG noted that in the ISO standard the results are given as proportion of the 2-position fatty acid esters, expressed as a percentage by mass of the total fatty acid esters of the 2-monoglycerides and expressed the view that the text in the Codex Standard for Olive Oil should be corrected to read as proposed by the International Olive Oil Council:

"The saturated fatty acids at position 2 means the sum of the palmitic (16:0) and stearic (18:0) acids expressed as a percentage (m/m) of the total fatty acids at position 2".

The Working Group recommended that this matter should be brought to the attention of the Codex Committee on Fats and Oils and later to the Commission for correction.

Endorsement of Methods included in Commodity Standards as contained in CX/MAS 86/11

10. The status of endorsement of the above methods is contained in Table I. The Working Group recommended that in the preparation of documentation for consideration at future sessions the author should include in the paper i) Principle of Method and ii) information whether the methods of analysis under consideration had been reviewed by a Working Group and if so its composition.

11. The WG noted that certain errors had crept into the references of the methods cited and asked the secretariat to compare the text with the final reports (ALINORM) of the individual Commodity Committees.

Endorsement of Methods of Analysis in Draft Codex Standards - Results of Collaborative Methods for the determination of total nitrogen and α -amino nitrogen in Bouillons and Consommés

12. The results of collaborative methods for the determination of creatinine, total nitrogen and α -amino nitrogen in Bouillons and Consommés as contained in the document CX/MAS 86/11-Add.1 were presented by Mr. H.A.M. Hoek of AIIBP.

13. The WG noted that, in presenting the results of the collaborative study the check list of information required to evaluate methods of analysis submitted to the CCMAS for endorsement was followed to the minutest detail. The WG also noted that the results of the study were published in the Journal "Alimenta".

14. The Working Group congratulated the authors Mr. H.A.M. Hoek (colorimetric method for the determination of total creatinine in meat Bouillons and meat Consommés - collaborative test) and Mr. S. de Leeuw (method for the determination of total (kjeldahl) nitrogen and α -amino nitrogen in Bouillons and Consommés - Collaborative test) both of AIIBP and expressed appreciation for their efforts in presenting the results of collaborative studies in the required format.

15. The WG endorsed the methods for estimation of creatinine, total nitrogen and α -amino nitrogen included in the Codex Standard for Soups and Bouillons (Codex Stan. 117-1981) as Type II methods.

Appendix III (Cont.)

Endorsement of the methods of analysis reviewed and updated by certain Codex Commodity Committees (CX/MAS 86/10-Parts I and II)

16. The WG noted that some references to methods of analysis contained in the document CX/MAS 86/10 Parts I and II need updating. The WG asked the representatives of AOAC, ISO and IUPAC at the meeting to make available complete references to all the updated methods to the Secretariat by 1 January 1987 for incorporation into the document.
17. The WG noted that the absence at the Meeting of representatives of the International Organizations interested in the Food Commodities under consideration made the task of endorsement of methods contained in Codex Standards difficult and made a general appeal for the attendance of knowledgeable representatives at all future sessions of CCMAS when their commodities are being considered.
18. The WG had been handicapped in its work by a lack of appropriate information needed for endorsement and had to work under considerable pressure because of the volume of work submitted. In order to improve the efficiency in the future, the Group recommended that further emphasis be given to the need for full documentation of methods in accordance with the guidelines; and that the matter be brought to the attention of Commodity Committees and the international organizations concerned with method development and evaluation. Document CX/MAS 86/11-Add.1 is an example of the type of complete documentation.
19. The WG noted a number of inconsistencies or errors in the text desired and asked the secretariat to carefully review the document with the original texts available.
20. The WG recommended that Codex Commodity Committees should as far as possible recommend general methods applicable to commodities as required by the general principles for the selection of methods, across the board, rather than recommending different methods for the same provision in different standards. Such an action by the Codex Commodity Committees will reduce considerably the number of methods that need to be endorsed by CCMAS.
21. The status of endorsement of those methods that were reviewed by the Working Group is given in Tables II-III. The status of endorsement of other methods was maintained.

Need for an Intersession meeting of the WG on Methods of Analysis

22. The WG noted that endorsement of methods of analysis of Codex Commodity standards would be an ongoing activity. The periodical review of Methods of Analysis being undertaken by the Codex Commodity Committees resulting from a recommendation of CCMAS and presently being carried out by the Commodity Committees would increase the number of endorsements that the CCMAS had to undertake in the near future.
23. The WG expressed the view that organization of an intersession meeting of the WG on Methods of Analysis would considerably improve the efficiency of the Committee in reviewing the methods of analysis included in Codex Standards with a view to endorsing them and recommended that such a meeting be organized.
24. The WG was informed that US would be glad to host such a meeting. Some members of the WG suggested that it would facilitate participation of a number of delegations if such a meeting envisaged as above is held in conjunction with another Codex meeting. The Group expressed the view that because of the Interagency Meeting being held preceding the CCMAS meeting, it would be impractical to hold the meeting in conjunction with meetings of CCMAS.
25. The WG recommended that an Intersession meeting of the WG on Methods of Analysis be held and left it to the Secretariat to work out the details.

Updating of document on the status of endorsements prepared by Australia

26. The WG noted that the document prepared by Australia (CX/MAS 86/10 - Parts I and II) on the existing status of endorsements of Methods of Analysis in Codex Standards was a useful document and expressed the view that the document should be updated in the light of decisions taken by the 15th Session of CCMAS and proposed the following procedure for updating of the document:

- i. International Organizations, ISO, AOAC and IUPAC will make available complete references to all the updated methods to the Codex secretariat by 1 January 1987.
- ii. The Codex secretariat will transmit the submission as above received from the International Organizations along with the decisions taken by the 15th Session of CCMAS to Australia.
- iii. Australia will update the documents 86/10 Parts I and II in the light of information received.
- iv. Copies of the updated document/s will be made available to all Codex Contact Points and to participants of the 15th Session of CCMAS.

TABLE I

Endorsement of Methods of Analysis in Document CX/MAS 86/11

CODEX COMMITTEE ON PROCESSED FRUITS AND VEGETABLES

COMMODITY	STEP	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS		
Canned Mangoes	8.	8.1.1	Sampling for Visual Defects and Fill of Container	Codex Sampling Plans for Prepackaged Foods (CAC/RM 42-1969)	Alinorm 87/20, V		TBE		
		8.1.2	Sampling for Net Weight	Sampling Plan to be Elaborated	"		*		
		8.1.3	Sampling for Analytical Requirements	Sampling Plan to be Elaborated	"			*	
		8.1.4	Size of Sample Unit	8.1.4.1	For Ascertaining Fill of Container and Drained Weight the Sample Unit Shall be the Entire Container	"	I		E
				8.1.4.2	For Ascertaining Compliance with the Requirements for Styles and Defects the Sample Unit Shall be: (a) the Entire Container When it Holds 1 Litre or Less; or	"	I		E

COMMODITY	STEP	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
			(b) 500g of Drained Fruit (of a Representative Mixture) When the Container Holds More Than 1 Litre				
		8.2	Drained Weight	CAC/RM 36-1970	Alinorm 87/20, V	I	E
		8.3	Syrup Measurement (Refractometer Method)	AOAC (1980) 31.011; or ISO 2173-1978	"	I	NE <u>1/</u>
		8.4	Water Capacity of Containers	CAC/RM 46-1972	"	I	E
Mango Chutney	8	7.1.1	Sampling for Visual Defects	Codex Sampling Plans for Prepackaged Foods (CAC/RM 42-1969)	Alinorm 87/20, VI		
		7.1.2	Sampling for Net Contents	Sampling Plan to be Developed	"		
		7.1.3	Sampling for Analytical Require- ments	Sampling Plans to be Elaborated	"		
		7.2.1	Total Soluble Solids	AOAC (1980) 31.011 or ISO 2173 (1978)	"	I	NE <u>2/</u>

COMMODITY	STEP	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
		7.3	Water Capacity of Containers	CAC/RM 46-1972	Alinorm 87/20, VI	I	E
		7.4	Determination of Ash	ISO 763-1982 (Ash Insoluble in Hydrochloric Acid)	"	I	NE <u>3/</u>
			Method for Total Ash	To be Developed	"		
Honey	8	7.1	Reducing Sugar Content	Method Described in Standard	Alinorm 85/20, IX	I	E
		7.2	Apparent Sucrose	"	"	I	E
		7.3	Moisture Content	"	"	I	E
		7.4	Water-Insoluble Solids Content	"	"	I	E
		7.5	Mineral Content (Ash)	"	"	I	E
		7.6	Acidity	"	"	I	E
		7.7	Diastase Activity	"	"	I	E <u>4/</u>
		7.8	Hydroxymethylfurfural Content (Photometric)	ISO 7466-1986	"		NE <u>5/</u>

CODEX COMMITTEE ON CEREALS, PULSES AND LEGUMES

COMMODITY	STEP	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
Certain Pulses	8	8.1	Moisture	ISO 665-1977, Oilseeds- Determination of Moisture and Volatile Matter Content	Alinorm 87/29, II	I	E
		8.2	Methods of Sampling	ISO 951-1979, Pulses in Bags			
		ADDITIONAL METHODS	AACC 64-70A, Sampling of Wheat and Other Whole Grains (Large Mass; Other than Mechanical Means)	"			"
			AACC 64-50, Sampling of Feeds and Feedstuffs (Bagged Materials)	"			"
			AOAC (1984) 7.001-Sampling of Animal Feed (Bag Sampling)	"			"
			ISO 950-1979, Cereals-Sampling (As Grain)	"			"
			ICC 101/1, Cereals-Sampling as Grain (Stated to be Identical to ISO 950)	"			"
			ISO 6644-1981, Cereals and Milled Cereal Products-Automatic Sampling by Mechanical Means	"			"

CODEX COMMITTEE ON PROCESSED MEAT AND POULTRY PRODUCTS

COMMODITY	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
Classification and review of methods of analysis for processed meat and poultry products <u>1/</u>	Nitrite	ISO-2918, Meat and Meat Products Determination of Nitrite Content (The method is under Revision by ISO) <u>1/</u>	Alinorm 85/16, paras 221-229 and App V	II	E	
	Total Fat Content	ISO-1443, Meat and Meat Products Determination of Total Fat Content	"	I	E	<u>6/</u>
	Nitrogen/Protein	ISO-937, Meat and Meat Products Determination of Nitrogen Content	"	I&II	E	<u>7/</u>
	Nitrate	ISO-3091, Meat and Meat Products Determination of Nitrate Content (The Method is Under Revision by ISO)	"	II	E	

1/ Minor revision

CODEX COMMITTEE ON CEREALS, PULSES AND LEGUMES

COMMODITY	STEP	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS		
Sorghum Grains	6	8.1	ICC 120, Mechanical Sampling of Grains (Stated to be Identical to ISO 6644)	Alinorm 87/29, II			<u>8/</u>		
			Additional Methods:	ISO 950-1979 Cereals-Sampling (as grain)	Alinorm 87/29, III			<u>8/</u>	
				. AACC 64-70A, Wheat and Whole-Grains					
				. AAC 64-50, Sampling of Feeds and Feedstuffs					
				. AOAC (1984) 7.001, (Bag Sampling)					
	8.2	Moisture	ISO 6540-1980, Maize - Determination of Moisture Content	"	I	E			
	8.3	ASH	ICC-104, Determination of Ash in Cereal and Cereal Products)))	"	I	E			
			ISO 2171-1980, Cereals, Pulses and Derived Products - Determination of Ash))						
	8.4	Crude Fibre	ICC-113, Determination of Crude Fibre ISO 6541-1981, Agricultural Food Products - Determination of Crude Fibre	"	I	E			

CODEX COMMITTEE ON CEREALS, PULSES AND LEGUMES

COMMODITY	STEP	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
		8.5 Protein	ICC 105/1 - Determination of Crude Protein in Cereals and Cereal Products (Selenium Copper Catalyst)	Alinorm 87/29, III	II	E	<u>9/</u>
		8.6 Fat	AOAC (1984) 14.066, 7.061 Crude Fat	"	I	E	
			ISO 5986-1983, Animal Feeding Stuffs (Stated to be Identical to AOAC Method)	"			
		8.7 Tannins	NF V 03-751 Septembre 1985 Norme Francaise "Sorghum - Determination of Tannin Content"	"	I	E	<u>10/</u>
Sorghum Flour	5	9.1 Sampling					
		9.1.1 "	ISO 2170-1980, Cereal and Pulses - Sampling of Milled Products	Alinorm 87/27, IV and VI			<u>8/</u>
		9.1.2 "	ICC 130, Sampling of Milled Products (Semolinas, Flours, Agglomerated Flours and By-Products)	"			<u>8/</u>

CODEX COMMITTEE ON CEREALS, PULSES AND LEGUMES

COMMODITY	STEP	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
	9.1.3	"	AOAC (1984) 10.126, Sampling of Malt 10.159 (Cereal Adjuncts)	Alinorm 87/29, IV and VI			<u>8/</u>
	9.1.4	"	AACC 64-60, Sampling of Flour, Semolina and Similar Products; Feeds and Feedstuffs in Sacks	"			<u>8/</u>
	9.2	Moisture					
	9.2.1	"	ISO 712-1985, Cereals and Cereal Products - Determination of Moisture content)	"	I	E	<u>11/</u>
	9.2.2	"	ICC 110/1 - Determination of Moisture, Cereals and Cereal Products)	"			
	9.3	Granularity	AOAC (1984) 10.162-163	"	I	E	
	9.4	Ash					
	9.4.1	"	ICC 104, Ash in Cereals and Cereal Products)	"	I	E	
	9.4.2	"	ISO 2171-1980, Ash in Cereals, Pulses and Derived Products)	"			

CODEX COMMITTEE ON CEREALS, PULSES AND LEGUMES

COMMODITY	STEP	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
	9.5	Protein	ICC 105/1, Crude Protein in Cereals and Cereal Products	Alinorm 87/29, IV and VI	II	E	
	9.6	Crude Fat					
	9.6.1	"	AOAC (1984) 14.066, 7.061) "			
	9.6.2	"	ISO 5986, Animal Feeding Stuffs)	I	E	
	9.7	Crude Fibre					
	9.7.1		ICC 113, Crude Fibre Value)	I	E	
	9.7.2		ISO 6541-1981, Agricultural Food Products - Crude Fibre Content)))			
	9.8	Colour	Colorimetric Method of Kent Jones using Martin Colour Grader)))		NE	<u>12/</u>

CODEX COMMITTEE ON FISH AND FISHERY PRODUCTS

COMMODITY	STEP	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS	
Quick Frozen Blocks of Fish Fillet, Minced Fish Flesh and Mixtures of Fillets and Minced Fish Flesh	5	7.1	Sampling	Sampling Schedule for Fish Blocks)	Alinorm 87/18, III			
		7.2	Organoleptic Examination	Samples Taken for Organoleptic Examination Shall be Assessed by Persons Trained in Such Examination)	"		<u>13/</u>	
		7.3	Quantities for Examination	The determination of Net Weight and Glaze Shall be on a Whole Block in the Frozen State)	"			
		7.4	Net Content of Products Covered by Glaze	Method to be Developed)	"			
		7.5	Proportions of Fillet and Minced Fish in Frozen Blocks	Method Included in Draft Standard	"	I	E	
		7.6	Candling Procedure for the Detection of Parasites	"	"	I	E	
		7.7	Sodium Chloride	Codex General Method for Chloride	"	II	E	
		8.	Classification of Defectives	Procedures Described in Standard	"			<u>13/</u>

CODEX COMMITTEE ON FISH AND FISHERY PRODUCTS

COMMODITY	STEP	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
		9. Lot Acceptance (i) Quality (ii) Net Contents	Procedures described in Standard)	Alinorm 87/18, III		
Dried Salted Fish (Klippfish) of the Gadidae Fish Family	6	8.1.1 Sampling for Visual and Organoleptic Defects	To be elaborated)	Alinorm 87/18, VI		
		8.1.2 Sampling for Net Weight	Under Elaboration)	"		
		8.2 Examination of Physical Defects and Organoleptic Assessment	Organic and Physical Assessment Shall be Made Only by Persons Trained in Such Assessment))))			13/
		9. Classification of Defectives	Procedure Described in Standard))	"		
		10. Lot Acceptance	")	"		

CODEX COORDINATING COMMITTEE FOR AFRICA

COMMODITY	STEP	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
Pearl Millet	6	8.1	Sampling	ICC Method No 101	Alinorm 85/28A, II		<u>14/</u>
		8.2	Moisture	ICC Method No 109	"		"
		8.3	Ash	AFNOR Method VO3-720 (October 1971) Cereals and Milling Products	"		"
		8.4	Crude fibre	ICC Method No 113	"		"
		8.5	Proteins	AOAC (12th Edition) 14.026	"		"
		8.6	Fat	Soxhlet Method (Details to be Included)	"		"
Pearl Millet Flour	6	All Provisions and Methods Identical to Above		Alinorm 85/28A, III		"	

COORDINATING COMMITTEE FOR EUROPE

COMMODITY	STEP	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
Vinegar	8	9.1 Total acid content expressed as CH ₃ COOH	AOAC method (direct titration) AOAC, 1980, XIII Ed., 30.071	ALINORM 87/19, II	I	E	
		9.2 Residual alcohol (0.5%v/v, 1% v/v)	AOAC method (specific gravity by pycometer) AOC, 198, XIII Ed., 9.012-9.013.	ALINORM 87/19, II	II	NE	<u>15/</u>
			OIV method, Recueil des méthodes internationales d'analyses du vin, 1969, A-2-16.	ALINORM 87/19, II	III	NE	<u>15/</u>
		9.3 Soluble solids (1.3-2.0 g/l per 1% CH ₃ COOH)	AOAC method (evaporation on water bath), AOAC, Jan. 1987	ALINORM 87/19, II	I	E	<u>16/</u>
		9.4 Sulphur dioxide (70 mg/kg)	OIV method (iodometric titration), Recueil des méthodes internationales d'analyses du vin, 1969, A-17	ALINORM 87/19, II	II	NE	<u>17/</u>
		9.5 Arsenic (1 mg/kg)	AOAC colorimetric (silver diethyl dithiocarbamate) method, AOAC, 1980, XIII Ed., 25.012-25.013	ALINORM 87/19, II	II	E	
		9.6 Lead (1 mg/kg)	AOAC method, AOAC, 1980, XIII Ed., 25.061-25-067.	ALINORM 87/19, II	II	E	
		9.7 Copper (sum of Cu and Zn 10 mg/kg)	AOAC Atomic absorption method, AOAC, 1980, XIII Ed., 25.044-25.048	ALINORM 87/19, II	II	E	
9.8 Zinc (sum of Cu and Zn 10 mg/kg)	AOAC Atomic absorption method, AOAC, 1980, XIII Ed., 25.150-25.153	ALINORM 87/19, II	II	E			

COORDINATING COMMITTEE FOR EUROPE

COMMODITY	STEP	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
		9.9 Iron (10 mg/kg)	IFJU method No. 15, 1964, Determination (photometric method). The determination shall be made after dry ashing as described in Section - 5 Remark (b). Results are expressed as mg iron/kg.	ALINORM 87/19, II	II	NE	<u>18/</u>
Mayonnaise		9.2 Total fat (min. 77%)	Method 1/20 of the Bundesverband der Deutscher Feinkostindustrie (endorsed by CIMSCEE)*	ALINORM 87/19, III	I	NE	<u>19/</u>
		9.3 Egg yolk (min. 6%)	Quinoline Molybdate Method of the BENELUX	ALINORM 87/19, III	I	NE	<u>19/</u>

OLIVE OIL COUNCIL

COMMODITY	STEP	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
Table Olives	5	10.2 Drained weight	FAO/WHO Codex Alimentarius Method, CAC/RM 36-1970 Drained Weight Method I,	ALINORM 85/33, III	I	E	
		10.3 Salt (min. 4-10% depending on type)	Codex General Method for the Determination of chloride. Results are expressed as g of NaCl in 100 g of sample, ALINORM 79/23, App. IV.	ALINORM 85/33, III	II	E	
		10.4 Acidity (0.4% as lactic)	Method given in 10.4, App.III, ALINORM 85/33 (see App.2 to this paper)	ALINORM 85/33, III	I	E	
		10.5 pH	Method given in 10.5, App.III, ALINORM 85/33 (see App.2 to this paper)	ALINORM 85/33, III	I	E	
		10.6 Water Capacity of Containers	FAO/WHO Codex Alimentarius Method for Processed Fruits and Vegetables (No. CAC/RM 46-1972)	ALINORM 85/33, III	I	E	
		10.7 Tin (Sn)	AOAC - 13th Ed., 1980, Tin: Atomic absorption Method (28) - Interim Official First Action: 25.136-25.138, OR ISO 2447-1974, Fruit and Vegetable Products - Determination of Tin	ALINORM 85/33, III	II	E	
				ALINORM 85/33, III	III	E	<u>20/</u>
		10.8 Lead (Pb)	AOAC - 13th Ed., 1980, lead: 25.061-25.067.	ALINORM 85/33, III	II	E	

TABLE I - Footnotes

- 1/ Representatives of AOAC and ISO agreed to provide the principle behind the method.
- 2/ Awaiting results of consultation between AOAC and ISO regarding the estimation for Total Soluble Solids by Refractometer method.
- 3/ Method could not be endorsed in the absence of adequate information on the provisions in the standard.
- 4/ The WG noted that the enzyme is provided by honey. All enzymatic methods in the view of the WG should be classified as defining methods.
- 5/ The method uses p. Toluidine which is a carcinogenic reagent and is not appropriate for modern laboratory. The Commodity Committee should review the methodology suggested in the standard and may consider the AOAC method 31.153 (1984) 14th Edition for incorporation in the standard. ISO may also develop another method.
- 6/ While endorsing, the WG noted that the total fat determined by this method would include phospholipids.
- 7/ While endorsing, the WG reiterated its view that the method could be classified as Type I and II dependent upon how the value is expressed.
- 8/ The WG held the view that mechanical sampling falls in between statistical sampling and laboratory sampling and wondered whether it would fall within its terms of reference.
- 9/ While endorsing, the WG noted that the Codex standard provides specific factors for conversion of nitrogen to protein.
- 10/ Purely an empirical method. One does not have a clear knowledge of what is being actually measured.
- 11/ The title of the method appears to be in error. The Secretariat should check the title of the method with the original.
- 12/ Awaiting definite reference to the method and support data for its applicability to the standard.
- 13/ Provision is not appropriate for endorsement by the Committee.
- 14/ The Codex Coordinating Committee for Africa should consider including the same methodology as adopted for analysis of other cereals.
- 15/ Method does not seem to be appropriate. The WG would need to have more information on the origin and nature of residual alcohol in vinegar.
- 16/ The WG was informed that a new Collaborative Study was carried out by the UK for the Community and that the methodology adopted was accepted by AOAC. The new reference has been given.
- 17/ The WG noted that the Classical Monier Williams method cannot be adopted for estimation of SO_2 in vinegar since acetic acid is also collected in the distillate. Hence it approved the use of iodimetric titration for estimation of SO_2 in vinegar but, however, could not endorse the method in the absence of the document cited.
- 18/ Method not collaboratively tested. The Coordinating Committee for Europe may consider inclusion of atomic absorption or colorimetric method which has been collaboratively tested.
- 19/ The WG noted that the standard for Mayonnaise contains provisions for total fat and egg yolk. Method for estimation for total fat and egg yolk in Mayonnaise were collaboratively tested in 1976/77. The methods were never endorsed by CCMAS. The UK delegation (Dr. Wood) agreed to make the results of the studies available to the Secretariat for transmission to the members of the WG. The subject will be discussed at the next session of CCMAS.
- 20/ The WG noted that results of collaborative studies of the ISO method are available.

TABLE 2

Changes and Comments on Methods of Analysis in Document CX/MAS 86/10 - Part ICODEX COMMITTEE ON METHODS OF ANALYSIS AND SAMPLING

COMMODITY	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
All Foods	Arsenic	AOAC XIII (1980) 25.012-25.013 (Colorimetric method)	ALINORM 81/23, IV	II	E	<u>1/</u>
"	Tin	AOAC XIV 1st Supplement (1985) 28.A01 (AAS method)	"	II	E	<u>2/</u>
"	Tin	AOAC XIII (1980) 25.136-25.138 (AAS method)	"	III	E	<u>2/</u>
"	Copper	AOAC (1984) 14th Ed, 25.006-25.071	This report, para 67	III	E	

CODEX COMMITTEE ON COCOA PRODUCTS AND CHOCOLATE

Cocoa Butters (Codex Stan 86-1981)	8.1.8 Copper	Colorimetric (diethyl dithiocarbamate) method of the AOAC (1970) 25.023-8	Vol VII-Ed 1, p8		TE	<u>3/</u>
	8.1.9 Lead	Colorimetric Dithizone Determination Procedure After Complete Digestion, AOAC (1970) 25.053 (25.047-25.048)	"		TE	<u>3/</u>
Chocolate (Codex Stan 87-1981)	8.6 Arsenic	Colorimetric (diethyldithio carbamate) method, AOAC (1970) 25.011 (25.016, 26.017)	Vol VII-Ed 1, p 24		E	<u>4/</u>
	8.7 Copper	Colorimetric (diethyldithio carbamate) method, AOAC (1970) 25.023-8	"		TE	<u>4/</u>

COMMODITY	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
Chocolate (Codex Stan 87-1981)	8.8 Lead	Colorimetric dithizone after complete digestion, AOAC (1970) 25.053 (25.047, 25.048)	Vol VII-Ed 1, p 25		TE	<u>4/</u>
Cocoa Powders (Cocoas) and Dry Cocoa-Sugar Mixtures (Codex Stan 105-1981)	8.10 Copper	Colorimetric (diethyldithiocarbamate) method, AOAC (1970) 25.023-25.028	Vol VII-Ed 1, p 34	II	TE	<u>5/</u>
	8.11 Lead	Colorimetric dithizone determination after complete digestion, AOAC (1970) 25.053(25.047, 25.048)	"	II	TE	<u>5/</u>
Cocoa Butter Confectionery (Codex Stan 147-1985)	8.1.2 Percentage Cocoa	Through total fat OICC - AOAC method, AOAC (1980) 13.031-13.033 and OICC 8a (1972) - common text Methods for (a) total sterols, OICC 14/1970; and (b) GLC Analysis of sterols OICC 15/1973 will be submitted for endorsement after collaborative testing	Alinorm 83/10, IV		EP	<u>6/</u>
	8.1.3 Milk Fat	Determination of semi-micro indices OICC 8i/1960 and AOAC (1975) 13.050, 28.037, 13.041 and 13.042; calculated from the Reichert Meissel Values	"	I	E	<u>6A/</u>

CODEX COMMITTEE ON EDIBLE ICES

COMMODITY	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
Edible Ices & Ice Mixes (Codex Stan 137-1981)	8.1 Selection of Sample	IDF Stan. 113:1952	Vol XII, p 20			
	8.2 Preparation of Sample	IDF Stan. 50B: 1985 ISO 707:1985 AOAC 16.312:1984	"	I	E	<u>7/</u>
	8.3 Weight/Unit Volume	ISO/DP 6738 AOAC 16.310 IDF questionnaire	Alinorm 85/23, p 20	I	E	<u>7/</u>
	8.4 Total Solids	IDF Standard 70 (1972) ISO 3728-1977 AOAC 16.313	"	I	E	<u>7/</u>
	8.5 Fat (Roese Gottlieb)	IDF Standard 116 (1983) ISO 7328-1984 AOAC 16.316 IDF Stan. 125:1985 (Weibull) ISO/DIS 8262/2	"	I	E	<u>7/</u>
						III
	8.6 Foreign Fat in Milkfat	Method still being developed	"			
	8.7 Total Protein	AOAC 16.314 ISO/DP6737	"	I	E	<u>7/</u>
	8.8 Phosphatase	AOAC 16.329)	"	I	E	<u>7/</u>
IDF Standards 63.1971)						
ISO 3356-1975)						

CODEX COMMITTEE ON EDIBLE FATS AND OILS

General Standard for Edible Fats and Oils not Covered by Individual Standards (Codex Stan 19-1981)	8.3 Matter Volatile at 105°C	IUPAC 6th Ed (1979) 2.601 & ISO 662-1980	Alinorm 85/23, II	I	E	<u>9/</u>
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COMMODITY	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
General Standard for Edible Fats and Oils not Covered by Individual Standards (Codex Stan 19-1981)	8.6 Iron	CAC/RM 14-1969, Determination of Iron Content	VOL XI-Ed 1, p 210	II	TE	<u>10/</u>
	8.7 Copper	AOAC (1965) Method (IUPAC carbamate method 24.023 - 24.028)	Vol XI-Ed 1, p 210	II	TE	<u>10/</u>
	8.8 Lead	AOAC (1965) 24.053 (and 24.008, 24.009, 24.043j, 24.046, 24.047, 24.048)	Vol XI-Ed 1, p 210	II	E	<u>11/</u>
	8.9 Arsenic Content	AOAC (1980) 25.006 - 25.008 012-013	Alinorm 85/23, II	II	E	
Edible Soya Bean Oil (Codex Stan 20-1981)	8.2 Refractive Index	IUPAC 6th Ed (1979) 2.102 ISO 6330-1985	"	II	E	
	8.9 Matter Volatile at 105°C	IUPAC 6th Ed (1979) 2.601 & ISO 662-1980	Alinorm 85/23, II	I	E	<u>9/</u>
	(19) Prep of Fatty Acid Methyl Esters	IUPAC 6th Ed (1979) 2.301 & ISO 5509-1978	"	II	E	<u>12/</u>
	(20) Analysis by GLC of Methyl Esters	IUPAC 6th Ed (1979) 2.302 & ISO 5508-1978	"	II	E	<u>12/</u>
Margarine (Codex Stan 32-1981)	9.1 Milk Fat Content	CAC/RM 15-1969, Determination of Milk Fat	Vol XI-Ed 1, p 189	I	E	<u>13/</u>
	9.4 Vitamin A Content	AOAC (1980) 43.001-43.007	Alinorm 85/23, II	II	E	<u>14/</u>
	9.5 Vitamin D Content	AOAC (1980) 43.195-43.208	"	II	E	<u>14/</u>
	9.6 Vitamin E Content	IUPAC (1981) 2-404	"	II	E	<u>14/</u>
	8.14 Arsenic Content	AOAC (1980) 25.006-25.008 012-013	Alinorm 85/23, II	II	E	<u>10/</u>

COMMODITY	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
Olive Oil, Virgin and Refined, and Refined Olive - Residue Oil <u>3/</u> (Codex Stan 33-1981)	8.16 Alpha - Tocopherol	IUPAC 6th Ed (1981) 2-404	Alinorm 85/23, II	II	E	<u>16/</u>
	8.20 Beta - Sitosterol	IUPAC 6th Ed (1979) 2.403	Alinorm 85/23, II	II	E	
	8.21 Fatty Acids at Position 2	IUPAC 6th Ed (1979) 2.210 ISO 6800-1985	"	II	E	
Edible Mustardseed Oil (Codex Stan 34-1981)	8.5 Allyl Isothiocyanate Content	CAC/RM 10-1969 (Method given in Vol XI-Ed 1, p 215)	"	II	E	
Edible Low Erucic Acid Rapeseed Oil (Codex Stan 123-1981)	8.7 Fatty acid Composition	IUPAC 6th Ed (1979) 2.301-2.302	"	II	TE	<u>17/</u>
Minarine (Codex Stan 135-1981)	9.1 Milk Fat Content	CAC/RM 15-1969, Determination of Milk Fat	Vol XI-Ed 1, p 198	I	E	<u>13/</u>
	9.4 Vitamin A Content	AOAC (1980) 43.001-43.007	Alinorm 85/23, II	II	E	<u>14/</u>
	9.5 Vitamin D Content	AOAC (1980) 43.195-43.208	"	II	E	<u>14/</u>
	9.6 Vitamin E Content	IUPAC (1980) 2-404	Alinorm 85/23, II	II	E	<u>14/</u>
<u>CODEX COMMITTEE ON FISH AND FISHERY PRODUCTS</u>						
Canned Pacific Salmon (Codex Stan 3-1981)	5.2 Vacuum Tests	Method described in standard	Vol V-Ed 1, p 4	I	E	
	8.4 Drained Weight - Method A for Packing Medium	CAC/RM28-1970 (method described in standard)	"	I	E	
	8.6 Net Contents	CAC/RM29-1970 (method described in standard)	Vol V-Ed 1, p 20	I	E	
	8.8 Water Capacity of the Container	CAC/RM31-1970 (method described in standard)	Vol V-Ed 1, p 21	I	E	

COMMODITY	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
Quick Frozen Fillets of Cod and Haddock (Codex Stan 50-1981)	7.1 Thawing and Cooking Procedures	CAC/RM40-1971 (method described in standard)	Vol V-Ed 1, p 26	I	E	
	7.2 Net Contents of Products Covered by Glaze	CAC/RM41-1971 (method described in standard)	Vol V-Ed 1, p 27	I	E	
Quick Frozen Fillets of Ocean Perch (Codex Stan 51-1981)	7.1 Thawing and Cooking Procedures	CAC/RM40-1971 (method described in standard)	Vol V-Ed 1, p 34	I	E	
	7.2 Net Contents of Products Covered by Glaze	CAC/RM41-1971 (method described in standard)	Vol V-Ed 1, p 35	I	E	
Canned Tuna and Bonito in Water or Oil (Codex Stan 70-1981)	7.3 Net Contents	Method described in standard	"	I	E	
Canned Crab Meat (Codex Stan 90-1981)	8.3 Net Content	Method described in standard	Vol V-Ed 1, p 49	I	E	
	8.4 Drained Weight	Method described in standard	Vol V-Ed 1, p 50	I	E	
	8.5 Water Capacity of Container	Method described in standard	Vol V-Ed 1, p 51	I	E	
Quick Frozen Fillets of Flat Fish (Codex Stan 91-1981)	7.2 Thawing Procedure	CAC/RM40-1971 (method described in standard)	Vol V-Ed 1, p 57	I	E	
	7.3 Cooking Procedure	Method described in standard	Vol V-Ed 1, p 58	I	E	
	7.6 Net contents of products covered by glaze	Method described in standard	"	I	E	

COMMODITY	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
Quick Frozen Shrimps or Prawns (Codex Stan 92-1981)	7.2 Thawing Procedure	CAC/RM40-1971 (method described in standard)	Vol V-Ed 1, p 71	I	E	
	7.3 Cooking Procedure	Method described in standard	"	I	E	
	7.6 Net Contents of Products Covered by Glaze	Method described in standard	Vol V-Ed 1, p 72	I	E	
Quick Frozen Fillets of Hake (Codex Stan 93-1981)	7.2 Thawing	CAC/RM40-1971 (method described in standard)	Vol V-Ed 1, p 84	I	E	
	7.3 Cooking	Procedure 18.BOI Official methods of analysis of the AOAC (methods described in standard)	"	I	E	
	7.6 Net Contents of Products Covered by Glaze	Method described in standard	Vol V-Ed 1, p 85	I	E	
Canned Sardines and Sardine-Type Products (Codex Stan 94-1981)	7.3 Net Contents	Method described in standard	Vol V-Ed 1, p 99	I	E	
Quick Frozen Lobsters (Codex Stan 95-1981)	7.3 Net Contents of Products Covered by Glaze	Method described in standard	Vol V-Ed 1, p 112	I	E	
	7.4 Thawing of Meat	CAC/RM40-1971 (method described in standard)	"	I	E	
	7.5 Cooking Procedures	Methods described in standard	"	I	E	

COMMODITY	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
Canned Mackerel and Jack Mackerel (Codex Stan 119-1981)	8.3 Net Contents	Method described in standard	Vol V-Ed 1, p 127	I	E	
	8.4 Determination of Drained Weight and Washed Drained Weight of Mackerel or Jack Mackerel in Relation to Water Capacity of the Container	Method described in standard	Vol V-Ed 1, p 128	I	E	

CODEX COMMITTEE ON FRUIT JUICES

All Codex Standards for Fruit Juices, Concentrated Fruit Juices and Fruit Nectars, Preserved Exclusively by Physical Means (Methods as Appropriate)	4. L-Ascorbic Acid	AOAC (1980) 43.061-064	Alinorm 85/23, II	II	E	
	5. Carbon Dioxide	IFJU Method No 42, 1966	"	IV		<u>18/</u>
	7. Ethanol	IFJU Method No 2, 1968	"	II	NE	<u>23/</u>
	9. Hydroxymethylfurfural	IFJU Method No 12, 1968	Alinorm 85/23, II	II	NE	<u>19/</u>
	11. Added Salt	IFJU Method No 37, 1968	Vol X-Ed 1, p 112		NE	<u>20/</u>
	17. Arsenic	AOAC (1980) 25.010-011	"	III	E	
		AOAC (1980) 25.A01-A05	"	III	E	
	20. Lead	AOAC (1980) 25.016-26.067	"	II	E	
		IFJU Method No 14, 1964	"	III	NE	<u>21/</u>
	23. Tin	AOAC (1980) 25.136-183	"	II	E	<u>24/</u>
24. Zinc	AOAC (1980) 25.A03-A05	"	III	E		

CODEX COMMITTEE ON FOOD ADDITIVES

COMMODITY	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
Food Grade Salt (Codex Stan 150-1985)						
	8.2 Sodium chloride	Method described in Standard	Alinorm 85/12, VIII	TE		<u>22/</u>
	8.3 Insoluble Matter	ISO 2479-1972	"	TE		<u>22/</u>
	8.4 Sulphate	ISO 2480-1972	"	TE		<u>22/</u>
	8.5 Halogens	ISO 2481-1973	"	TE		<u>22/</u>
	8.6 Calcium and Magnesium	ISO 2482-1973	"	TE		<u>22/</u>
	8.7 Potassium	ECSS/SC183-1979 (volumetric method) or ECSS/SC184-1979 (AA Method)	"	TE		<u>22/</u>
	8.8 Loss on Drying	ISO-2483-1973	"	TE		<u>22/</u>
	8.9 Copper	ECSS/SC144-1977	"	TE		<u>22/</u>
	8.10 Arsenic	ECSS/SC311-1982	"	TE		<u>22/</u>
	8.11 Mercury	ECSS/SC312-1982	"	TE		<u>22/</u>
	8.12 Lead	ECSS/SC313-1982	Alinorm 84/12, VIII	TE		<u>22/</u>
	8.13 Cadmium	ECSS/SC314-1982	"	TE		<u>22/</u>

TABLE II - Footnotes

- 1/ In keeping with the Commission's recommendation to take the needs of developing countries into account in selecting methods, the Working Group recommended keeping this colorimetric procedure using diethy-dithiocarbamate for As instead of changing to a more modern hydride generation - AA method which uses equipment which may not be readily available in some countries.
- 2/ The WG proposed a method based on AAS methodology, which is faster, simpler and gives more precise results and temporarily endorsed AOAC (1980) 25.136-25.138 (AAS method) as a Type III method to be re-evaluated, at the next session of CCMAS. The WG agreed to study the Quercetin method for colorimetric estimation of tin at the next session of CCMAS as proposed by the delegation of USSR. NMKL has available a Quercetin method which has been collaboratively tested. Results of collaborative studies available with NMKL will be made available to members of the WG.
- 3/ Retained in this status until data are received from a planned IUPAC collaborative study on AAS methods.
- 4/ Retained in this status pending collaborative studies planned by OICC/IUPAC.
- 5/ Retained in this status awaiting OICC submissions.
- 6/ Bring to the attention of OICC which should provide a revised methodology. For comments of CCMAS see ALINORM 83/23 para. 49.
- 6A/ IUPAC has available a new method for the estimation of Milk Fat on the basis of Butyric and which has been collaboratively tested. Documentation will be made available by the Secretariat to all members of the WG for discussion at the next session. The Commodity Committee concerned has adjourned *sine die*.
- 7/ Methods were endorsed based on completion of acceptable collaborative studies.
- 8/ Only one method for determination of fat which is a Type I method could be endorsed and hence the Weibull method was endorsed as Type III.
- 9/ Discrepancy between 105°C temperature stated under provision and the 103°C temperature mentioned the method was noted. This should be brought to the attention of CCFO for correction of the text.
- 10/ The WG temporarily endorsed this reference method and will reconsider this endorsement after receipt of a future IUPAC submission on AAS methodology for this provision.
- 11/ Not endorsed. Recommended that the Commodity Committee re-examine the cited method to determine if it is sensitive enough for the regulatory level set in the standard. A direct injection Graphite-furnace AAS-method currently being studied by ISO/IUPAC should be considered for submission once acceptable collaborative data are provided.
- 12/ The WG endorsed this method and suggested that the Commodity Committee consider a capillary-GC method currently being studied by ISO as a Type II or III method when collaborative results become available.
- 12A/ The WG recommended status and Type classifications listed on provisions titled "Matter volatile at 105°C", "Iron", "Copper", "Lead", "Arsenic Content", "Refractive Index", and "Preparation of Fatty Acid Methyl Esters", "Analysis by GLC of Methyl Esters" or "Fatty Acid Composition" (as listed for some Commodities), under the General Standard for Edible Fats and Oils (Codex Stan 19-1981) and Edible Soya Bean Oil (Codex Stan 20-1981), Commodity apply to the same provisions if listed as provisions for the following Commodities: Edible Soya Bean Oil (Codex Stan 20-1981); Edible Arachis Oil (Codex Stan 21-1981); Edible Cottonseed Oil (Codex Stan 22-1981); Edible Sunflowerseed Oil (Codex Stan 23-1981); Edible Rapeseed Oil (Codex Stan 24-1981); Edible Maize Oil (Codex Stan 25-1981); Edible Sesameseed Oil (Codex Stan 26-1981); Edible Safflowerseed Oil (Codex Stan 27-1981); Lard (Codex Stan 28-1981), Rendered Pork Fat (Codex Stan 29-1981); Premier Jus (Codex Stan 30-1981), Edible Tallow (Codex Stan 31-1981); Olive Oil (Codex Stan 33-1981); Edible Mustardseed Oil (Codex Stan 34-1981); Edible Low Erucic Acid Rapeseed Oil (Codex Stan 123-1981); Edible Coconut (Codex Stan 123-1981); Edible Palm Oil (Codex Stan 125-1981); Edible Palm Kernel Oil (Codex Stan 126-1981); Edible Grapeseed Oil (Codex Stan 127-1981); Edible Babassu Oil (Codex Stan 128-1981); Minarine (Codex Stan 135-1981).
- 13/ The WG recommended that the Commodity Committee consider an IUPAC collaboratively studied method for butyric acid to replace this Type I method which has not been collaboratively studied.

- 14/ The Working Group recommends that the Commodity Committee consider improved methods which have been collaboratively studied for this vitamin since 1980.
- 15/ The Working Group noted that this method was not included in the Standard as published in Vol. XI-Ed. 1 and did therefore not consider revising its status.
- 16/ The Working Group recommends that the Commodity Committee consider improved methods which have been collaboratively studied since 1980 and also consider the nomenclature should be made consistent with the previous provision for Vitamin E under margarine.
- 17/ The Working Group questioned whether the primary intent of this method was to determine erucic acid content of the rapeseed oil and would recommend that the Commodity Committee consider IUPAC 2.3111 which is equivalent to ISO-1209 for this purpose.
- 18/ Method reclassified as Type IV due to the lack of a collaborative study.
- 19/ The Working Group did not endorse this method because it utilized o-toluidine, a carcinogenic reagent, and recommends that the Commodity Committee substitute another method which does not utilize this reagent.
- 20/ The Working Group recommended that the Commodity Committee consider using the chlorides method for all foods, IAOAC 58, 399-400 (1975).
- 21/ The Working Group did not endorse this method because it will not be determine very low levels of lead which may be included in the Standards. The anodic stripping voltammetry methods, AOAC 25.006 and 25.008 (1984) were suggested as alternative methods. USSR delegation also proposed that polarographic methods should be considered (ALINORM 85/23, II).
- 22/ The Working Group noted that none of the methods cited were collaboratively tested. It asked the Secretariat to send complete documentation available on the methodology cited for review at the next session of the Committee. The Group expressed the view that the general methods applicable to all foods may not be applicable to salt but should be used where appropriate.
- 23/ The method is being presently amended (ALINORM 85/23, Appendix II)
- 24/ The WG was informed that a new method for estimation of tin involving Hcl extraction is available.

CODEX COMMITTEE ON PROCESSED FRUITS AND VEGETABLES

COMMODITY	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
Canned Green Beans and Canned Wax Beans (Codex Stan 16-1981)	7.2 Tough String Test	CAC/RM 39-1970	Vol II-Ed 1, p 36	I	E	
Processed Tomato Concentrates (Codex Stan 57-1981)	9.2 Natural Tomato Soluble Solids	AOAC (1970) 32.008-010	Vol II-Ed 1, p 112	I	E	
	9.4 Mineral Impurities	AOAC (1980) 44.091	Alinorm 85/23, II	I	TE	<u>1/</u>
Canned Green Peas (Codex Stan 58-1981)	8.6 Method for Distinguishing Type of Peas	CAC/RM 48-1972	Vol II-Ed 1, p 120	I	E	
Table Olives (Codex Stan 66-1981)	9.1.1 Drained Weight	CAC/RM 36-1970	Alinorm 85/23, II	I	E	<u>2/</u>
	9.1.2 Salt Content of Brine	AOAC (1980) 32.025-030	Alinorm 85/23, II	I	E	<u>2/</u>
	9.1.3 Acidity of Brine	Method described in standard	Alinorm 85/23, II	I	TE	<u>2/</u>
	9.1.4 pH of Brine	Method described in standard	Alinorm 85/23, II	II	TE	<u>2/</u>
Raisins (Codex Stan 67-1981)	8.4 Sulphur Dioxide	AOAC (1980) 20.109-111	Alinorm 85/23, II	II	TE	<u>3/</u>
Canned Cocktail (Codex Stan 78-1981)	8.2 Ascertaining Proportions of Fruit	Method described in standard	Vol II-Ed 1, p 211	I	E	
Canned Tropical Fruit Salad (Codex Stan 99-1981)	8.2 Proportion of Fruit	Procedure described in standard	Vol II-Ed 1, p 251	I	E	

COMMODITY	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
Pickled Cucumbers (Cucumber Pickles) (Codex Stan 115-1981)	9.2.3 Total Acidity	AOAC (1980) 22.060	Alinorm 85/23, II	I	E	<u>4/</u>
Dried Apricots (Codex Stan 130-1981)	8.2.1 Moisture	AOAC (1975) 22.013 CAC/RM 50-1974	Vol II-Ed 1, p 298 Vol II-Ed 1, p 298	I III	E E	<u>5/</u>
	8.2.2 Sulphur Dioxide	AOAC (1980) 20.109-111	Alinorm 85/23, II	II	TE	<u>3/</u>
	8.2.3 Broken, Slabs, Dirty, Mouldy, Damaged and Immature Fruit	Method described in standard	Vol II-Ed 1, p 298	I	E	
Unshelled Pistachio Nuts (Codex Stan 131-1981)	8.2.1 Moisture	AOAC (1980) 27.005	alinorm 85/23, II	I	E	<u>4/</u>
	8.2.2 Specific Defects	Detailed in the standard	Vol II-Ed 1, p 304	I	E	
	8.2.3 Size Classification	Detailed in the standard	Vol II-Ed 1, p 304	I	E	
Canned Palmito (Codex Stan-1985)	8.4 Mineral Impurities	ISO 762-1982	Alinorm 85/20, VI	I	E	
Canned Chestnuts and Canned Chestnut Puree (Codex Stan - 1985)	8.3 Soluble Solids (Refractometer Method)	AOAC (1980) 31.011	Alinorm 85/23, II	I	E	<u>6/</u>

CODEX COMMITTEE ON PROCESSED MEAT AND POULTRY PRODUCTS

Canned Corn Beef (Codex Stan 88-1981)	7. Nitrite	Recommended method ISO 2918-1975 (under revision)	Vol IV-Ed 1, p 4	II	E	
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COMMODITY	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
Luncheon Meat (Codex Stan 89-1981)	7.1 Fat	Recommended method ISO 1443-1973	Vol IV-Ed 1, p 10	I	E	
	7.2 Nitrite	Recommended method ISO 2918-1975	Vol IV-Ed 1, p 10	II	E	
Cooked Cured Ham (Codex Stan 96-1981)	7.1 Protein	Recommended method ISO 937	Vol IV-Ed 1, p 16	II	E	
	7.2 Fat	Recommended method ISO 1443	Vol IV-Ed 1, p 16	I	E	
	7.3 Nitrite and Nitrate	Recommended methods ISO 2918 (Nitrate) ISO 3091 (Nitrate)	Vol IV-Ed 1, p 16	II	E	
	7.4 Correction for Added Gelatine	Described in standard	Vol IV-Ed 1, p 16	I	E	
Cooked Cured Pork Shoulder (Codex Stan 97-1981)	7.1 Protein	Recommended method ISO/R 937	Vol IV-Ed 1, p 22	II	E	
	7.2 Fat	Recommended method ISO 1443	Vol IV-Ed 1, p 22	I	E	
	7.3 Nitrite and Nitrate	Recommended methods ISO 2918 (Nitrate) ISO 3091 (Nitrate)	Vol IV-Ed 1, p 22	II	E	
	7.4 Correction for Added Gelatine	Described in standard	Vol IV-Ed 1, p 22	I	E	

COMMODITY	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
Cooked Cured Chopped Meat (Codex Stan 98-1981)	7.1 Fat	Recommended method ISO 1443	Vol IV-Ed 1, p 28	I	E	
	7.2 Nitrite	Recommended method ISO 2918	Vol IV-Ed 1, p 28	II	E	
<u>CODEX COMMITTEE ON QUICK FROZEN FOODS 7/</u>						
Quick Frozen Peas (Codex Stan 41-1981) etc.	8.2 Alcohol Insoluble Solids	Method described in standard	Vol VIII-Ed 1, p 7	I	E	
	8.3 Net Weight	CAC/RM 34-1970 (method described in standard)	Vol VIII-Ed 1, p 10	I	E	
	8.4.1 Thawing Procedure	CAC/RM 32-1970	Vol VIII-Ed 1, p 11	I	E	
	8.4.2 Cooking Procedure	CAC/RM 33-1970	Vol VIII-Ed 1, p 11	I	E	
Quick Frozen Raspberries (Codex Stan 69-1981)	8.2 Thawing Procedure	CAC/RM 32-1970	Vol VIII-Ed 1, p 27	I	E	
	8.3 Net Weight	CAC/RM 34-1970	Vol VIII-Ed 1, p 27	I	E	
	8.4 Drained Berry Ingredient	Method described in standard	Vol VIII-Ed 1, p 27	I	E	
	8.5 Mineral Impurities	CAC/RM 54-1974	Vol VIII-Ed 1, p27	I	E	
	8.6 Total Soluble Solids	CAC/RM 43-1971	Vol VIII-Ed 1, p27	I	E	
Quick Frozen Spinach (Codex Stan 77-1981)	8.4 Salt-Free Dry Matter	Method described in standard	Vol VIII-Ed 1, p 54	I	E	
Quick Frozen Wax Beans (Codex Stan 113-1981)	8.5 Tough String Test	CAC/RM 39-1970	Vol VIII-Ed 1, p 126-127	I	E	

COMMODITY	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
Quick Frozen Whole Kernel Corn (Codex Stan 132-1981)	8.6 Soluble Solids Content	CAC/RM 43-1971	Vol VIII-Ed 1, p 150-151	I		<u>8/</u>
Quick Frozen Corn on the Cob (Codex Stan 133-1981)	8.6 Soluble Solids Content	CAC/RM 43-1971	Vol VIII-Ed 1, p 164-165	I		<u>8/</u>
Quick Frozen Carrots (Codex Stan 140-1983)	8.4.2 Mineral Impurities	CAC/RM 54-1974	Vol VIII-Ed 1, Supp 1, p 15-16		I	<u>8/</u>

CODEX COMMITTEE ON SOUPS AND BROTHS

Bouillons and Consommes (Codex Stan 117-1981)	9.2 Creatinine	Method 215 (Hadorn method) of AllBP Official Methods (June 1973)	Vol IV-Ed 1, p 39	II	E	<u>9/</u>
	9.3 Total Nitrogen	Method 216 of AllBP Official Methods (June 1973)	Vol IV-Ed 1, p 39	II	E	<u>9/</u>
	9.4 Amino Nitrogen	Method 217a of AllBP Official Methods (June 1973)	Vol IV-Ed 1, p 39	II	E	<u>9/</u>
	9.5 Sodium Chloride	Method 214 of AllBP Official Methods (March 1975)	Vol IV-Ed 1, p 39		EP	<u>10/</u>
	9.6 Lead	AOAC (1975) 25.098	Vol IV-Ed 1, p 40	II	E	<u>11/</u>
	9.7 Tin	To be elaborated	Vol IV-Ed 1, p 40			<u>11/</u>

COMMODITY	PROVISION	METHOD	CODEX REFERENCE	TYPE	STATUS	COMMENTS
Natural Mineral Waters (Codex Stan 108-1981)	8.2.1.1 Total Dissolved Solids	Method described in standard	Vol XII-Ed 1, p 7	I	TE	<u>12/</u>
	8.2.1.2 Total Organic Matter	Permanganate method, "Handbuch der Leben - smittelchemie (Gesamtred: J. Schormuller), Volume VIII, Parts 1 and 2, Water and Air (S.W. Souci and K.E. Quentin) Springer-Verlag, 1969	Vol XII-Ed 1, p 7	I	TE	<u>12/</u>

CODEX COMMITTEE ON AFRICAN REGION

Gari (Codex Stan 151-1985)	9.3 Moisture	ICC 109/1 or ISO 712-1985	Alinorm 85/28A, VIII	I	E E	
	9.6 Acidity	AOAC (1975) 14.064-065 ISO 7305-1985	Alinorm 85/28A, VIII	I	E NE	<u>13/</u> <u>13/</u>
	9.7 Crude Fibre	ISO 5498-6451 (1981)	Alinorm 85/28A, VIII	I	NE	<u>14/</u>

Table III Footnotes (Cont.)

9/ The WG endorsed this method based on the detailed information provided in CX/MAS 86/11-Add.1 but suggested a more specific citation of the reference to the method be included by the Secretariat.

10/ The WG did not endorse this method and recommended that the Commodity Committee consider adopting the general method for estimation of chlorides which is applicable to all foods. (ALINORM 79/23, IV).

11/ The WG recommended that the Commodity Committee consider adopting the AAS method for lead and tin endorsed by CCMAS for All Foods.

12/ Final endorsement not made because requested information on results of collaborative studies (Vol. XII-Ed 1, p8) have not been provided by the Codex Coordinating Committee for Europe.

13/ The WG recommended that the Secretariat request that the Codex Committee on African Region determine which of these two distinctly different methods they wish to have as a Type I method.

14/ The 14th Session of CCMAS noted that this method provides for five modifications and the Codex Coordinating Committee for Africa should identify the appropriate one (ALINORM 85/23, Appendix II).

Table III Footnotes

- 1/ Secretariat will follow-up on previous request made to the Commodity Committee after the 14th Session (November 1984) to provide the basis for the selection of this method.
- 2/ While maintaining the status of endorsement of the different provision, the WG noted that the Codex standard for Table Olives is being presently revised by the International Oil Council and is presently at Step 5 (CX/MAS 86/11)
- 3/ The WG retained the temporary endorsement for this provision because information was not available to it on the details of the method.
- 4/ Type of method changed from II to Type I in order to be consistent with previous classifications.
- 5/ This method was moved to Type III because only one Type I method can be endorsed.
- 6/ The AOAC representative pointed out that the method description states that the method doesn't apply to products with undissolved solids and the Commodity Committee should consider whether a centrifugation or workup procedure reference should also be included in the method citation.
- 7/ The WG assigned a Type I classification to all the following provisions, "Net Weight", "Thawing Procedures", "Cooking Procedure", "Mineral Impurities", "Total Soluble Solids" and "Drained Fruit, or Berry Ingredients or Berries", which are listed with previously endorsed methods for the following commodities in CX/MAS 86/10-Part 2: Quick Frozen Peas (Codex Stan 41-1981), Quick Frozen Strawberries (Codex Stan 52-1981), Quick Frozen Raspberries (Codex Stan 69-1981), Quick Frozen Peaches (Codex Stan 75-1981), Quick Frozen Bilberries (Codex Stan 76-1981), Quick Frozen Spinach (Codex Stan 77-1981), Quick Frozen Blueberries (Codex Stan 103-1981), Quick Frozen Leek (Codex Stan 104-1981), Quick Frozen Broccoli (Codex Stan 110-1981), Quick Frozen Cauliflower (Codex Stan 111-1981), Quick Frozen Brussel Sprouts (Codex Stan 112-1981), Quick Frozen Wax Beans (Codex Stan 113-1981), Quick Frozen Potatoes (Codex Stan 114-1981), Quick Frozen Whole Kernel Corn (Codex Stan 132-1981), Quick Frozen Corn on the Cob (Codex Stan 133-1981), Quick Frozen Carrots (Codex Stan 140-1983),
Examples of WG Type I classifications are given below for Quick Frozen Peas and Quick Frozen Raspberries Commodities.
- 8/ The WG endorsed this method which was not endorsed earlier.

REPORT OF THE SIXTH
INTER-AGENCY MEETING (IAM)
BUDAPEST, 6-7 NOVEMBER 1986

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OPENING OF THE MEETING

1. The Meeting was opened by Mr. J. Marosi, Technical Director of the Hungarian Office for Standardization (MSZH). In welcoming the Representatives of the various Organizations who had responded to the invitation (see Annex 1), Mr. Marosi emphasized the important role of the Inter-Agency Meeting in the international cooperation and the harmonization of methods of sampling and analysis used in the production and trade of food products.

ELECTION OF CHAIRMAN

2. Following the proposal by Mr. Marosi, the Meeting elected Mr. G. Castan, Director of Standardization Policies of the French Association of Standardization (AFNOR).

3. Mr. Castan expressed his thanks for the confidence and extended a special welcome to those who were attending the IAM for the first time.

ADOPTION OF THE AGENDA

4. The agenda was adopted subject to inclusion of three further items dealing with the dissemination of information on planned collaborative studies, the activity of the OIV Sub-committee on methods of analysis and the harmonization of sampling procedures for food products.

REVIEW OF MEMBERSHIP OF THE INTER-AGENCY MEETING

5. The Secretary introduced the list of notified attendance and suggested that those Organizations which had not responded to the invitation be deleted from the list of invitees to the IAM. In reviewing the list of Organizations, however, the Meeting felt that ARSO and ASMO might be interested in the work of the IAM and should therefore not be deleted from the list of Organizations to be invited. The Representative of the CAC agreed to contact these two Organizations in order to find out whether they would like to participate actively in the work of the IAM.

6. The Representative of IUPAC drew attention to the activity of the Western European Fish Technology Association (WEFTA) and the Association of European Meat Research Workers (AEMRW) which might also be of interest to the IAM. He offered to approach WEFTA and AEMRW in order to obtain more information before the next Meeting.

7. The Representative of the CAC reminded the Meeting of the mandate of the IAM which actually restricts participation to those Organizations which develop and validate methods of analysis and sampling required by the CAC.

ACTION TAKEN BY THE CODEX SECRETARIAT IN RESPONSE TO THE RESULTS OF THE FIFTH INTER-AGENCY MEETING

8. The Representative of the Codex Secretariat introduced a document which outlined the further needs of the CAC with respect to analytical methodology and sampling plans. Participants felt that the CAC and its subsidiary bodies should use the potential available within the IAM for the work required, in particular with respect to sampling plans.

9. The Chairman suggested, and it was agreed, to deal with the various questions raised in the Codex paper under the respective agenda items.

SUGGESTIONS FOR IMPROVING THE INTERNATIONAL COOPERATION IN THE FIELD OF STANDARDIZED METHODS OF ANALYSIS AND SAMPLING

10. The Meeting considered two discussion papers submitted by IDF and ICC respectively. After some general discussion of the scope of work, questions of common interest, responsibility for the cooperation and the mechanism to be used, the Representative of the Codex Secretariat prepared a number of recommendations. These recommendations were approved, subject to minor editorial amendment (see Annex II).

COLLABORATIVE TESTING OF METHODS OF ANALYSIS

11. The Meeting considered the documents submitted by AOAC and IDF and the various questions related to the harmonization of procedures for collaborative studies.

VALIDATION OF METHODS OF ANALYSIS

12. In introducing his discussion paper, the Representative of AOAC emphasized the need for data from collaborative studies for all methods of analysis required by the CAC. He informed the Meeting of the joint efforts by AOAC, IUPAC and ISO which were directed towards preparation of a harmonized protocol for collaborative studies. The next meeting of the IUPAC/AOAC/ISO Harmonization Group was to be held in Geneva in May 1987 and the IAM hoped that the harmonized text of the protocol would be available after this meeting. Whilst the efforts for harmonization had been rather successful so far, no agreement had been reached yet on the question how to deal with outliers. In this context it was noted that the second edition of ISO 5725 "Precision of test methods - Determination of repeatability and reproducibility for a standard test method by inter-laboratory tests" had been published in September 1986.

13. The Representative of IDF introduced the IDF Standard 135:1986 which takes into account ISO 5725 and part of the AOAC discussion paper prepared for the meeting of the IUPAC/AOAC/ISO Harmonization Group.

PRACTICAL COOPERATION IN COLLABORATIVE TESTING

14. In noting the different approaches used by the various Organizations, the Meeting stressed the need for an agreed protocol for collaborative tests which should be generally applicable to all types of food products. This could be adapted to specific fields, if necessary.

15. Organizations participating in the IAM were invited to send their comments on the AOAC discussion paper to the Representative of AOAC who agreed to bring these comments to the attention of the IUPAC/AOAC/ISO Harmonization Group for consideration at the May 1987 meeting. The final text resulting from this meeting should be circulated to the IAM for approval and subsequent transmission to CCMAS. Comments by members of the IAM should reach Dr. Horwitz (AOAC) by 1 March 1987.

DISSEMINATION OF INFORMATION ON PLANNED COLLABORATIVE STUDIES

16. The Meeting was informed that the Codex Secretariat had contacted the Editor of the "Food Laboratory Newsletter" issued by the Swedish National Food Administration in order to explore the possibility of announcing in the Newsletter information on collaborative studies planned by the various Organizations. As the result had been positive, Organizations wishing to use the Newsletter as a medium for dissemination of the respective information were invited to contact the Editor Professor Bengt von Hofsten, National Food Administration, Box 622, S-7526 Uppsala, Sweden.

17. The meeting also noted the offer of AOAC to publish information on planned collaborative studies in the AOAC Newsletter "The Referee".

18. The mechanism and the format to be used for the dissemination of information by the Newsletters was discussed by a working group for which the Representative of IDF acted as convener. The proposal of the working group was subsequently approved (see Annex II, item e/).

REPORTS BY SPECIALIZED ORGANIZATIONS ON METHODS OF ANALYSIS AND SAMPLING REQUIRED BY THE CAC

19. Under this agenda item Representatives of the various Organizations presented brief reports on the relevant activities of their Organizations. AOAC had produced for each item listed hereafter, a list of methods of analysis, adopted in 1985 and 1986 by AOAC; and an additional list of methods with a completed collaborative study, to be adopted soon (40 methods in total). Illustrations and details were given under each item by the AOAC representative.

COCOA PRODUCTS AND CHOCOLATE

20. The Representative of OICCC introduced his report and mentioned that the determination of non-fat dry total solids in chocolate was particularly important to the work of the respective Codex Commodity Committee.

21. The Representative of the Codex Secretariat was pleased to note the work of OICCC. He pointed out that since the respective Codex Commodity Committee had adjourned sine die, the Codex Secretariat might call upon OICCC to survey the existing Codex methods for cocoa and chocolate.

22. The Meeting noted with satisfaction the close cooperation that existed between OICCC and AOAC.

MILK AND MILK PRODUCTS

23. The Representative of ISO gave a brief account of the joint IDF/ISO/AOAC activity which had been established in order to provide methods of analysis and sampling to the FAO/WHO Code of Principles concerning Milk and Milk Products.

24. The Representative of IDF introduced the latest edition of the IDF/AOAC/ISO Inventory of Methods of Analysis for Milk and Milk Products which lists all standards and drafts prepared by these three Organizations.

25. The Representative of the Codex Secretariat mentioned that further input by the IDF/ISO/AOAC Group of Experts will be required with respect to the detection of foreign fats in milk fat. He promised to inform the IDF/ISO/AOAC Group accordingly.

EDIBLE ICES

26. The Representative of IDF in introducing this item mentioned that the number of methods in question was relatively small, since CODEX STAN 10-1981 listed only ten provisions. Work had been finalized by the respective IDF/ISO/AOAC Groups of Experts or was in hand on subjects such as total protein, fat, total solids, mass per unit volume, foreign fat in milk fat, phosphatase test for pasteurization, selection and preparation of samples.

27. The Meeting noted the excellent cooperation between the three Organizations which should be used as an example for further improving the contacts between the various Organizations working in other fields.

FATS AND OILS

28. The Representative of ISO introduced an activity report prepared by the Secretariat of ISO/TC34/SC11 "Animal and Vegetable fats and oils". He mentioned the good contacts that existed between this ISO Sub-Committee and the IUPAC Commission on Oils and Fats.

29. The Representative of IUPAC distributed a paper which outlined the current work of his Organization. The meeting noted that some of the items in this paper also presented an interest to ISO, AOAC and IDF.

30. The Representative of the Codex Secretariat invited the participating Organizations to consider the preparation of a method for the determination of mixtures of different oils. This was very important for countries like India where only vegetable oils may be used for hardened fats. As no quantitative method was as yet available, a qualitative method for detection of small traces of animal fats should be developed.

31. The Secretary drew attention to an earlier decision by the Codex Committee on Fats and Oils to include double references to IUPAC and ISO methods in the respective documents, wherever these methods were technically equivalent. He felt that the recent Codex documents would require review and up-dating in this respect.

FOODS FOR SPECIAL DIETARY USES

32. In view of the fact that several Organizations were interested in this subject the Meeting felt that the IAM could play an important role in the coordination of the work and could provide input in order to assist the CCMAS. It was noted that some suitable methods were already available within AOAC, IDF and ISO.

33. The Representative of the Codex Secretariat suggested, and it was agreed, that whenever a method was required for the Codex, the Codex Secretariat would write to the Chairman of the IAM (with a copy to the Secretary), anticipating the Organizations concerned. The Chairman and the Secretary would take the necessary steps for bringing the matter to the attention of the respective Organizations.

FRUIT JUICES

34. In the absence of a Representative of IFJU, or a written statement of activity of this organization, the Representative of the Codex Secretariat briefly referred to the work of the CAC/ECE Group of Experts on Fruit Juices.

35. As no new methodology was required by the CAC/ECE Group of Experts, the Meeting agreed that there was no further need for discussion of this item.

PROCESSED FRUITS AND VEGETABLES

36. The Secretary regretted that no information on the current work of ISO/TC34/SC3 "Fruit and vegetable products" had been made available to the IAM by the secretariat of this sub-committee.

37. The Representative of the Codex Secretariat informed the Meeting that, for the time being, no action was required by the IAM. The existing Draft Codex Standards were to be adopted and the methods required to be selected by the CAC.

PROCESSED MEAT PRODUCTS

38. The Representative of ISO presented a brief report on the current work of ISO/TC34/SC6 "Meat and meat products". This sub-committee had close working relations with the Codex Committees on Processed Meat and Poultry Products.

39. The Meeting noted that the Codex Committee had developed five standards which all included references to the existing ISO methods which were at present undergoing revision.

40. ISO/TC34/SC6 was invited to collaborate with ISO/TC34/SC5 "Milk and milk products" on the subject of determination of non-meat proteins.

SUGARS

41. The Representative of ICUMSA informed the Meeting of the current work of his Organization. At the previous meeting of ICUMSA, held in June 1986, the new basic value of the international polarimetric sugar scale had been adopted. The method of determination of polarization of sugars had shown an inter-laboratory reproducibility of 0.07%.

42. The Representative of ICUMSA also mentioned possible steps for a further improvement of the collaboration between his Organization and ISO.

43. As far as the 1969 edition of the Codex Standard on Sugars was concerned, the Representative of ICUMSA noted that the Codex Methods of Analysis for Sugars were obsolete and urgently required up-dating. Proposals made by ICUMSA in this respect had not been taken into account by the Codex Committee on Sugars so far.

44. The Meeting noted that this matter would be considered by a Working Group which would be meeting during the course of the next Session of CCMAS. ICUMSA would be involved in the review of the respective Codex Methods, in cooperation with the Codex Secretariat. In this context the Meeting recalled the principle that analytical methods required by the CAC have to be submitted to a validation procedure by collaborative studies.

STARCH HYDROLYSIS PRODUCTS

45. The Chairman gave a brief account of the work of ISO/TC93 "Starch, derivatives and by-products". He mentioned that the secretariat of this technical committee had undertaken the preliminary steps for a reactivation of the committee taking as a basis the methods developed by AOAC and the Corn Research Association of the United States. For these methods collaborative studies have been carried out. The future work of ISO/TC93 would be limited to methods required by the CAC and would be carried out in close collaboration with AOAC and IFG. This, however, would require the CAC to reconfirm the earlier mandate of ISO/TC93 for the development of methods.

CEREALS, CEREAL PRODUCTS, PULSES AND LEGUMES

46. This agenda item was introduced by the Representative of ISO who had prepared a report on the activity of ISO/TC34/SC4 "Cereals and Pulses".

47. The Meeting noted the good progress made at the recent meeting of the sub-committee and the close cooperation with ICC.

48. In reply to a suggestion by the Representative of ISO, the Representative of ICC offered to publish information on planned collaborative studies by his own and other Organizations in the ICC Newsletter.

MICROBIOLOGY

49. The Representative of ISO gave a brief account of the work of (ISO/TC34/SC9 "microbiology". Methods developed by this sub-committee are of particular interest to the Codex Committee on Food Hygiene.
50. The Representative of IDF mentioned that six or seven IDF/ISO/AOAC Groups of Experts were developing microbiological methods for dairy products. He stressed the importance of work on a method for the determination of Listeria monocytogenes.
51. The Representative of NMKL informed the Meeting of the respective work in her Organization. Following a suggestion by the Secretary, the Representative of NMKL promised to explore the possibility of establishing liaison between NMKL and ISO/TC34 "Agricultural food products" and its sub-committees.
52. The Representative of OIV also expressed interest in the work of ISO/TC34/SC9. The secretariat of ISO/TC34/SC9 was invited to approach OIV in order to find out whether a direct liaison between these two bodies would be required.
53. The Meeting then discussed the applicability of ISO 5725 to collaborative studies in the field of microbiology and the particular problems involved in microbiological collaborative studies.
54. The Chairman underlined the leading role of ISO/TC34/SC9 in providing the general framework and basis for the work. He invited the other Organizations to follow the general guidance established by this body unless there are specific technical reasons which would justify another approach.
55. As microbiological methods were becoming an essential part of the work of the IAM, the Representative of IUPAC proposed that IUMS (International Union of Microbiological Societies) should also be invited to become member of the IAM.

MINERAL WATERS

56. The Meeting noted the relevant work of ISO/TC147 regarding "Water quality". This work could be of interest to the Codex Coordinating Committee for Europe which develops a Regional Codex Standard on Natural Mineral Waters. It was suggested that, in addition to the existing ISO work on microbiological methods, the ISO work on chemical methods be taken into account by the Codex Committee.

CONTAMINANTS

57. The Representative of IUPAC introduced a list of projects relating to the determination of mycotoxins, aquatic biotoxins, toxic elements, nitrosamines, natural toxicants, halogenated hydrocarbons, and environmental contaminants. In reply to a query by the Representative of the Codex Secretariat, the Representative of IUPAC pointed out that work was also in hand on migrants from packaging materials, i.e. vinyl chloride.
58. The Representative of IDF promised to compile a list of all IDF/ISO/AOAC subjects dealing with contaminants for consideration by the IAM.
59. The Representative of the Codex Secretariat informed the Meeting that CAC was considering whether to establish a new Codex Committee to deal with radioactive contaminants. In this context the work of AOAC on the determination of iodine-131 and caesium-137 was mentioned as well as that of OIV on the detection of radio-active potassium, sodium, calcium and magnesium in wines.
60. Whilst expressing interest in the work of the various Organizations on the subject, the Meeting realized that the IAM was unable to make a practical contribution at this stage.

FOOD ADDITIVES

61. The Representative of the Codex Secretariat briefly out-lined the content of document CX/FA 85/11-Add.1 which represented a first attempt at compiling methods of analysis for food additives and which had been prepared by the Codex Committee on Food Additives. A need existed for an indication of existing collaborative studies. After circulation of this document comments had been received from AOAC, IDF, ISO and NMKL.
62. The Representative of IUPAC informed the Meeting of the creation of a working group on food additives the task of which was to provide the lacking methodology.
63. The Representative of IDF introduced the joint contribution by IDF, ISO and AOAC. He mentioned that application of certain criteria to the standards as prescribed in the Code of Principles concerning Milk and Milk Products would reduce the list of additives to about 30 items for which it should be possible to develop suitable methodology. For example, one Organization could take the lead or the specialized Organizations could take up the work for a particular section.
64. The Meeting concluded that, in view of the large amount of work involved, the Codex Committee on Food Additives should be requested to establish priorities for those food additives for which methodology is lacking.

WINES AND SPIRITS

65. The Representative of OIV informed the meeting of the work of her Organization. At present, there were 33 countries which participated in the work. The OIV Sub-Committee on Methods of Analysis would be preparing the next edition of a collection of methods at the end of 1987. Some of the OIV methods, such as those for the determination of sulfur dioxide, alcohol, glycerol, density, acidity and sulfate had undergone collaborative studies the results of which had been published in the OIV Bulletin.
66. The Representative of OIV expressed the wish to achieve a closer cooperation with other interested Organizations, although the field covered by OIV was not yet of interest to the CAC.

SAMPLING PROCEDURES FOR FOOD PRODUCTS

67. Participants felt that the IAM could be of assistance to the CCMAS in its efforts towards development of uniform sampling procedures. It was agreed, therefore, to include the subject of sampling in the agenda of the next Meeting as a separate item.
68. The Representative of the Codex Secretariat offered to prepare a discussion paper for this item, if necessary. In the same context the Representative of AOAC drew attention to a paper on nomenclature for sampling in analytical chemistry which had been prepared by IUPAC and was also discussed by AOAC and ISO.

STANDARDIZATION OF TERMINOLOGY IN THE FIELD OF METHODS OF ANALYSIS AND SAMPLING

69. The Meeting agreed that harmonized terminology was one of the prerequisites of the work of the CAC, its subsidiary bodies and the international Organizations working in the field of methods of analysis and sampling.
70. Referring to the work of the IUPAC/AOAC/ISO Harmonization Group which will be meeting once more in May 1987, the Representative of AOAC agreed to prepare for the next meeting of IAM a document with proposals for uniform terminology used in collaborative studies.
71. The Representative of ISO (Mr. E. Nouat, AFNOR) offered to prepare a similar document which would cover the terminology used in analytical methodology and sampling. This document will take into account other documents previously considered by the IAM, such as the respective ISO Vocabulary of terms used in analytical methodology and sampling.

DATE AND PLACE OF THE NEXT INTER-AGENCY MEETING

72. The next IAM will be held in Budapest, in conjunction with the 1988 Session of the Codex Committee on Methods of Analysis and Sampling.

ANY OTHER BUSINESS

73. Following a query by several participants, the Meeting agreed that the official addresses of the Organizations as given in the mailing list (see Annex III) should be used for all communications between the Organizations. If possible, additional copies should be sent to those individuals who are normally representing their Organizations at the IAM in order to facilitate the exchange of information.

74. The Representative of IDF informed the participants of a recent initiative by the Secretary General of IDF who had invited a number of Non-Governmental Organizations to assist in the promotion of exchange of information at the international level. The subjects discussed were not directly related to the work of the CAC but might be of interest to FAO and other organizations.

75. On behalf of all Organizations present the Representative of OICCC thanked the Chairman for his able conduct of the Meeting and the good results achieved.

76. The Chairman thanked all participants, the interpreter, the Secretary and the staff of the Hungarian Office for Standardization for the excellent arrangements they had made for this Meeting. Referring to the mandate of the IAM, he emphasized the important role of this body which acts as some sort of catalyst between the various specialized Organizations which develop and validate methods of analysis required by the CAC.

77. Then the Meeting was closed.

ALINORM 87/23
Appendix IV (Cont.)

ANNEX I

ATTENDANCE SHEET

6th Inter-Agency Meeting

Place: Budapest, Gellért Hotel Date: 1986-11-6/7

ORGANIZATION	NAME	TITLE, PROFESSION and ADDRESS
ISO, Chairman	G. Castan	Directeur Politique et Orientation AFNOR, Tour Europe, Cedex 7, 92080 Paris, France
ISO, Secretary	K.-G. Lingner	Technical Group Manager, ISO/Central Secretariat, 1 rue de Varembe, Geneva, Switzerland
AOAC	W. Horwitz	Scientific Advisor, Food and Drug Adm., HFF-7, 200 C Str. SW Washington D.C. 20204, USA
AOAC	Ms. G. Cox	Cox and Cox Investments, CEO 12006 Auth Lane, Silver Spring, MD 20902, USA
AOAC/EU	Ms. M. Tuinstra- Lauwaars	Langhoven 12 6721 SR Bennekom The Netherlands
AOAC	P.H. Vree	Mgr. Tech. Services GEN. FOODS CORP. 250 North Str. White Plains N.Y. 10625, USA
CAC	L. Ladomery	Food Standards Officer, Joint FAO/WHO Food Standards Programme, Via delle Terme di Caracalla, 00100 Rome, Italy
CAC	Rao Maturu	- " -
EEOC	P. Molnár	Chairman of EEOC Food Section, Mester u. 81, Budapest 1091, Hungary
ICC	H. Glattes	Secretary General, A-2320, Schwechat, P.O. Box 77, Austria
ICC	Mrs. H. Reigner	Executive Secretary, A-2320 Schwechat, P.O. Box 77, Austria
ICUMSA	A. Emmerich	Former General Secretary, Zuckerinstitut, D-3300 Braunschweig, Langer Kamp 5 Federal Republic of Germany

ANNEX I

ATTENDANCE SHEET

6th Inter-Agency Meeting

Place: Budapest, Gellért Hotel Date: 1986-11-6/7

ORGANIZATION	NAME	TITLE, PROFESSION and ADDRESS
IDF	E. Hopkin	Deputy Secretary General Square Vergote 41 B-1040 Bruxelles, Belgium
IFG	D.B. Whitehouse	CPC Europe Quality Assurance Manager, Havenstraat 84, B-1800 Vilvoorde, Belgium
ISO	K. Kismarton	Secretary of ISO/TC 34, MSZH, Ülloi ut 25, Budapest 1091, Hungary
ISO	H.W. Schipper	NNI, Kalfjeslaan 2, Delft, P.O. Box 5059, 2600 GB The Netherlands
ISO	E. Nouat	Ingénieur principal, AFNOR Tour Europe-Cédex 7 92080 Paris, France
ISO	Mrs. B. Lak	Secretary of ISO/TC 34/SC 4, MSZH, Ülloi ut 36, Budapest 1091 Hungary
IUPAC	P.B. Czedik- Eysenberg	Gesellschaft Österreichischer Chemiker, Nibelungengasse 11, 1010 Vienna, Austria
NMKL	Ms. H. Wallin	Secretary General, c/o Technical Research Centre of Finland, Food Research Laboratory, SF-02150 Espoo, Finland
OICCC	H.J. Vos	Past President of OICCC Technical Committee, NL-3735, LG Bosch en Duin Populierenlaan 1A, The Netherlands
OIV	Ms. B. Mandrou	Professeur - Faculté de Pharmacie, 34060 Montpellier, France
Interpreter	Ms. K. Lomb	Budapest, Hungary

RECOMMENDATIONS OF THE INTER-AGENCY MEETING REGARDING
COOPERATION IN THE EXCHANGE OF INFORMATION

In an effort to promote cooperation between International Organizations aimed at responding to the needs of the Codex Alimentarius Commission for the development of suitable methods of analysis and sampling of food products, the Inter-Agency Meeting agreed that:

- (a) There is a need for a more extensive exchange of information and a greater degree of cooperation between the bodies, in relation to the work they are about to undertake;
- (b) Exchange of information between Organizations concerning work on the development and validation of methods is the responsibility of the Secretariats of the Organizations;
- (c) There is a need, therefore, to exchange lists of work in hand, with up-dating information as appropriate;
- (d) Exchange of invitations between bodies to send observers to each others' meetings is necessary. The observers should be properly briefed on the matters of interest and other relevant questions and should be expected to report back to their sponsors. The names of observers should always be sent in advance to the organizers. Registration fee for participation in working sessions should be waived;
- (e) Advance notice should be given of items of work to be undertaken, inter-laboratory and other studies planned, with invitations to participate where appropriate. Reports on results achieved should be issued. Advance notices should include a minimum amount of information such as indicated as follows in case of inter-laboratory collaborative studies.

Suggested standard information for announcement of inter-laboratory collaborative studies

The announcement should mention the name of the method (reference when published) and include all information necessary for potential participants including the following:

- analyte: criterion and parameter to be determined;
- matrix: the product or products on which the determination is to be performed;
- principle of method: including treatment of test portion (digestion, extraction), separation (purification, e.g. chromatography) and quantification (e.g. NMR, spectrometry, detector system);
- organizing body:
- contact point: name of person and address (telephone, telex, telefax);
- schedule: expected commencement of study (month, year) and expected date of report;
- participation: specification whether participation is open or restricted.

The announcement should be as brief as possible and should be made in good time before the start of the study. Organizations should communicate news of studies at least once each year.

(f) Organizations should send announcements to the Headquarters of the other Organizations indicating the member of the IAM to whose attention the announcement should be brought;

(g) Where circumstances so require, participation by specialists in each other's working groups, groups of experts, etc. should be made possible; and

(h) A comprehensive list of methods of analysis and sampling required by the Codex Alimentarius Commission should be prepared by the Codex Secretariat and kept up-to-date. The criteria included in such a list requiring the development and/or validation of methods of analysis and sampling should be examined by appropriate expert groups within the Codex system in order to see whether the methods are really required and to indicate the exact purpose which the methods are intended to serve.

AOAC

Association of Official Analytical Chemists
1111 North 19th Street
Suite 210
ARLINGTON, VA 22209

USA

AOAC (Europe)

Mrs. M. Tuinstra-Lauwaars
European Representative of the AOAC
Langhoven 12
6721 SG BENNEKOM
The Netherlands

ARSO

African Regional Organization for Standardization
P.O. Box 57363
NAIROBI

Kenya

ASMO

Arab Organization for Standardization and Metrology
P.O. Box 926161
AMMAN

Jordan

CAC

Codex Alimentarius Commission
Food and Agriculture Organization of the
United Nations
Via delle Terme di Caracalla
I-00100 ROMA

Italy

CCE

Commission of the European Communities
200, rue de la Loi
B-1049 BRUXELLES

Belgium

EOQC

European Organization for Quality Control
Postfach 2613
CH-3001 BERN

Switzerland

ICC

International Association for Cereal Science
and Technology
Schmidgasse 3-7
A-2320 SCHWEGHAT

Austria

ICUMSA

International Commission for Uniform Methods
of Sugar Analysis
c/o Institut für landwirtschaftliche
Technologie und Zucker-industrie
Postfach 5224
Langer Camp 5
D-3300 BRAUNSCHWEIG

Germany, F.R.

IDF

International Dairy Federation
41, Square Vergote
B-1040 BRUXELLES

Belgium

IFG

International Federation of Glucose Industries
Avenue de la Joyeuse Entrée 1-5
Bte 10
B-1040 BRUXELLES

Belgium

IFJU

International Federation of Fruit Juice Producers
10, rue de Liège
F-75009 PARIS

France

ISDI

International Society of Dietetic including all Infant &
Young Children Food Industries
194 rue de Rivoli
F-75001 PARIS

France

ISO

International Organization for Standardization
1 rue de Varembe
CH-1211 GENEVA 20

Switzerland

IUPAC

International Union of Pure and Applied Chemistry
Bank Court Chambers, 2-3 Pound Way
Cowley Centre
OXFORD OX4 3YF

United Kingdom

NMKL

Nordic Committee on Food Analysis
c/o Technical Research Centre of Finland
Food Research Laboratory
SF-02150 ESPOO

Finland

OIV

International Vine and Wine Office
11 rue Roquépine
F-75008 PARIS

France

IOCCC

International Office for Cocoa, Chocolate and Confections
General Directorate
172, avenue de Cortenberg
B-1040 BRUXELLES

Belgium