codex alimentarius commission

FOOD AND AGRICULTURE
ORGANIZATION
OF THE UNITED NATIONS

WORLD HEALTH
ORGANIZATION

JOINT OFFICE: Via delle Terme di Caracalla 00100 ROME: Tel. 57971 Telex: 610181 FAO I. Cables Foodagri

ALINORM 87/17

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION
Seventeenth Session
Rome, 29 June - 10 July 1987

REPORT OF THE THIRTEENTH SESSION OF THE CODEX COMMITTEE ON FATS AND OILS

London, 23-27 February 1987

INTRODUCTION

1. The Codex Committee on Fats and Oils held its Thirteenth Session in London from 23-27 February 1987 under the Chairmanship of Dr W H B Denner of the United Kingdom. The session was opened by Mr W E Mason, Deputy Secretary (Fisheries and Food) at the Ministry of Agriculture, Fisheries and Food, who welcomed participants on behalf of the Government of the United Kingdom.

2. The session was attended by representatives of 27 countries and observers from 10 international organisations. The list of participants including the Joint FAO/WHO Secretariat and the Committee Secretariat is contained in Appendix I of this Report.

ADOPTION OF THE AGENDA

3. The Committee adopted the provisional Agenda CX/FO 87/1 with an amendment proposed by the Chairman that the subject matter to be discussed under Agenda Item 13 be extended to read 'Review of Methods of Analysis and Sampling of Fats and Oils'. Sampling was added as Agenda Item 13.4.

SETTING-UP OF WORKING GROUPS

4. In response to suggestions from the Chair, the Committee agreed to set up three *ad hoc* Working Groups to consider:

(a) GLC fatty acid ranges;

(b) methods of analysis and sampling; and

(c) labelling provisions;

and report back to the plenary session under items 12, 13 and 14, respectively. The Committee agreed the terms of reference for each of the *ad hoc* Working Groups.

MATTERS OF INTEREST ARISING FROM SESSIONS OF THE CODEX ALIMENTARIUS COMMISSION, OTHER CODEX COMMITTEES AND JECFA

5. The Committee had before it Documents CX/FO 87/2, CX/FO 87/2 - Add 1, CX/FO 87/19 and Conference Room Document 1. The Committee noted that a number of matters of interest reported in the documents would be discussed under other agenda items and agreed to defer discussions on them until the particular agenda items were presented. The Committee agreed to discuss document CX/FO 87/19 on Consideration of Sampling Procedures for Codex Standards for individual oils, margarine and minarine under Agenda Item 13.

Codex Alimentarius

6. The Committee noted that the Codex Alimentarius, which is a collection of International Food Standards adopted within the Joint FAO/WHO Food Standards Programme and provisions of an advisory nature in the form of Codes of Practice, had been published in a loose-leaf form. The Standards, Codes of Practice as well as the Codex Methods of Analysis listed in CX/GEN - 85/1 and CX/GEN 85/1 - Add 1 could be obtained free of cost by the member governments from Codex Contact Points. The Secretariat was currently considering means of improving the availability of the documentation to potential users.

Amendments Proposed by India and Iraq to General Standard for Edible Fats and Oils

7. The proposal of India and Iraq made at the 3rd session of the Coordinating Committee for Asia that food colours and flavours included in the food additive provisions of the General Standard for fats and oils be deleted for reasons of health and consumer deception (ALINORM 83/43, paras 281-282) did not receive the support of the Committee.

Establishment of Food Additive Provisions for Non-Standardized Foods

8. The Committee was informed of a new programme of work to establish food additive provisions for non-standardized foods initiated by the CCFA. The delegations of Belgium and Netherlands proposed fats and oils used for frying and shortenings respectively for consideration but these did not receive the support of the Committee. The Committee therefore had no proposals for Non-Standardized Foods which came under its terms of reference for which food additive provisions might be established by CCFA.

Processing Aids

9. The Committee noted that all the processing aids it had earlier identified as being used in the processing of fats and oils (ALINORM 83/17, Appendix VIII) were included in the inventory currently being compiled by CCFA. It also noted that two processing aids, 2-nitropropane and trichloroethylene, used in processing of fats and oils had been cleared for use by JECFA provided the residue levels did not exceed 2 microgrammes/kg for 2-nitropropane and were kept as low as possible for trichloroethylene.

The Need for Review of Codex Standards

10. The Committee noted that since it was likely to adjourn sine die after the present (13th) session, regular review of Codex Standards so far elaborated by it could be undertaken in the future by the national Codex Secretariat of the host country in consultation with the Joint FAO/WHO Secretariat.

Determination of Fatty Acids at Position 2 in Olive Oil

11. 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: "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". In the view of the Olive Oil Council the text should be as it was in ALINORM 83/17 and should read: "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".

12. After having reviewed the comments received from Governments in response to CL 1986/1.FO, the Committee agreed with the views of the IOOC and also of the CCMAS (ALINORM 87/23, Appendix III, Paras 8 and 9) that 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.

13. The Committee advanced the Step 4 amendment to Step 5 with a recommendation for the omission of Steps 6 and 7 as the amendment was not controversial.

Consequences of Decisions Taken by The Joint Expert Committee on Food Additives (JECFA)

14. The Committee noted that decisions of JECFA on the ADI (Acceptable Daily Intake) Status of Food Additives would necessitate amendment of the food additive provisions especially of antioxidants and food colours in Codex Standards for fats and oils; withdrawal of ADI for a food additive by JECFA would necessitate the deletion of that food additive provision from the standard; and allotment of a numerical ADI required that a maximum level of use is specified in the Standard.

15. The Committee agreed there was a consequent need to amend certain food additive provisions in Codex Standards for fats and oils and deferred detailed discussion to Agenda Item 5 (paras 19-30). A body weight of 60kg for an adult and a daily intake of 100g fat were agreed as the basis for calculating food additive intakes. The Committee noted that a daily intake of 100g fat would provide 35-40% of the total calorie intake.

PROGRESS REPORT ON ACCEPTANCES

16. The Committee had before it document CX/FO 87/3. The Committee noted that an updated summary of acceptances (as at 3 December 1984) (Ref. No CAC/Acceptances Part I - Rev 3) had been prepared and made available to Governments. Further acceptances of Codex Standards for fats and oils had since been received from Cuba, The Dominican Republic, Ethiopia, Equatorial Guinea, Hungary, Norway, Poland and Tanzania.

17. The delegation of Malaysia informed the Committee that it had set up a National Codex Committee which was considering the acceptance of the Codex Standards for fats and oils. The delegation of USA informed the Committee that the USA had given consideration some years ago to Codex Standards with a view to acceptance. However, they would not give further consideration to the Codex Standards if GLC fatty acid ranges included in the Standards were not made mandatory. The delegation of Netherlands informed the Committee that it was in favour of accepting Codex Standards for fats and oils. The acceptance of Netherlands of the Codex Standards was, however, dependent on decisions within the European Community.

18. The Committee agreed that the success of the Codex should not be measured only in terms of the number of acceptances of Codex Standards. Such Standards were widely used in trading contracts and as authoritative sources for regulatory officials. They were also used as a reference material and as the basis for national standards in a number of countries.

CONSIDERATION OF THE DRAFT STANDARD FOR [VANASPATI/VEGETABLE FAT MIXTURE] AT STEP 7

19. The Committee had before it the above Draft Standard as contained in ALINORM 83/17 Appendix IV, Working Paper CX/FO 87/4 and Conference Room Document No. 9.

20. The Chairman reviewed the earlier discussions which the Committee had held at its Eleventh and Twelfth Sessions on this Draft Standard and, in particular, the difficulties it had found in agreeing a suitable title. The main problem was that the products covered by the Draft Standard had been originally developed in India as an alternative to ghee although similar products were now available in many other countries and were all sold under local names. The Committee had to agree a title for the Draft Standard which was acceptable to all delegations although, in common with all other Standards, it would allow product complying with the Draft Standard to be sold under designations which were in accordance with the laws and customs of the country in which the product was sold. The Committee also noted the views expressed by the Joint FAO/WHO Milk Committee that the Codex designation for any products containing vegetable fat or a mixture of animal and vegetable fat should not include the word "ghee".

21. The Chairman suggested amending the title to refer to 'specified vegetable fat mixtures' with consequent amendments to the Scope (Section 1), Product Definitions (Section 2.1.1), Packaging (Section 7), Name of the Food (Section 8.1) and Labelling Prohibitions (Section 8.9).

22. The delegation of the Netherlands stated that the quality characteristics applied to a much wider range of products, such as shortenings, and that therefore the scope section should contain a reference to vanaspati to make it clear that only this type of product was meant to be covered. The delegation of Malaysia gave general approval to the proposed title of the Standard. They suggested that the characteristic feature of many of these products was the crystalline, granular texture although they acknowledged that products with a smooth texture were also available. After discussion, the Committee agreed that the section on texture (Section 3.3.3) should not be changed. The delegation of Ireland suggested that the Scope section should be amended to include "sold as an alternative to ghee under one of the names permitted by Section 8". The delegation of IDF confirmed that this reference to ghee was acceptable. In addition, the Committee agreed the title should refer to "product" rather than "mixtures".

23 The Committee then considered a suggestion made by the delegation of the USA on the Name of the Food in which he referred to the consideration of a similar problem concerning white chocolate by the Codex Commission. After further discussion the Committee agreed the text in Appendix II.

24. The Chairman then asked the Committee to consider the provisions for the acid value and slip point. It was agreed the acid value should not exceed 0.6mg KOH/g. The delegation of Malaysia stated that a wider range for the slip point was required to meet the needs of all countries in which these products were marketed. The Committee therefore agreed to extend the range to 31-44°C. The proposed maximum levels for colours (Section 4.1) as given in CX/FO 87/4, resulting from JECFA allocating ADIs to these colours, were agreed by the Committee.

25. In order to take into account recent decisions of JECFA, the Chairman suggested a number of amendments to the maximum levels for antioxidants contained in the Draft Standard. The Committee noted that JECFA had not allocated ADIs to octyl and dodecyl gallate and therefore these additives should not be included in the Draft Standard. The Committee also agreed individual limits of 75mg/kg for butylated hydroxytoluene (BHT), 175 mg/kg for butylated hydroxyanisole (BHA) and 120 mg/kg for tertiary butyl hydroquinone (TBHQ).

26. The Committee also agreed to amend Section 4.3.5 so as to read 'Any combination of propyl gallate, BHA, BHT and/or TBHQ'. A maximum limit of 200mg/kg was agreed on the understanding that the individual limits mentioned above were not exceeded. After some discussion the Committee reached agreement on a figure of 500 mg/kg for the maximum level of natural and synthetic tocopherols but stressed that this related to added tocopherols. It was agreed that a footnote should be inserted in the Draft Standard stating that many vegetable oils naturally contained tocopherols at higher levels. The Committee expressed the view that at the levels of use recommended above the antioxidants would be effective.

27. The Committee agreed to subsitute the words 'limited by GMP' for 'not limited' as the maximum level for citric acid and its sodium salt. In response to a request from the delegation of Canada, it was agreed that sodium citrate should be listed separately with a maximum limit 'limited by GMP'. It was noted that there was no ADI for monoglyceride citrate but the Chairman assured the Committee that the Tenth Report of JECFA gave no indication that this product was harmful and therefore the Committee were justified in retaining the current text (with a maximum limit of 100 mg/kg). The Committee, nevertheless, recognised that the CCFA would need to confirm this view.

28. The Committee, noting that the CCFA would require a paper setting out a technological justification for the use of the above additives, asked the Secretariat to prepare such a paper. This paper, attached at Appendix IV, was endorsed by the Committee.

29. The Committee agreed that the Draft Standard as at Appendix II should be advanced to Step 8 subject to agreement being reached on the provisions for labelling, sampling and methods of analysis. [Secretariat Note: see paragraphs 49-55 and 70-80 for discussions on these matters].

30. The Chairman proposed to the Committee that all the provisions for the additives which had been agreed for the Draft Standard for Specified Vegetable Fat Product should be used as a basis for amending all Codex Standards for Fats and Oils. The Chairman noted that some Codex Standards did not permit the use of TBHQ and that the consequential amendments would not lead to the inclusion of this antioxidant in these Standards. The delegation of Switzerland noted that some Codex Standards only permitted ascorbyl palmitate and stearate to be used at 200 mg/kg although the CCFO had agreed at its 10th Session (ALINORM 76/19) that all Codex Standards for fats and oils should allow up to 500 mg/kg. The Committee agreed that the Secretariat should amend all Codex Standards for Fats and Oils including those for Margarine and Minarine on the above basis.

CONSIDERATION OF DRAFT STANDARD FOR [MIXED VANASPATI/SUBSTITUTE GHEE] AT STEP 7

31. The Committee had before it documents ALINORM 83/17, Appendix V, CX/FO 87/5 and Conference Room Document 10 which gave, respectively, the present text of the Draft Standard, comments received on the Draft Standard and proposals from the Secretariat for amendments to sections in the Draft Standard concerning the Title, Product Definition, Name of the Food and Labelling prohibitions. The Chairman reminded the Committee of the extensive discussion

which had taken place on similar considerations in the Draft Standard for Specified Vegetable Fat Product and proposed that a similar approach should be adopted for this Draft Standard. The Committee agreed to this proposal and amended the title to the Standard for Specified Animal or Mixed Animal and Vegetable Fat Product and made consequential changes in the Draft Standard.

32. The Committee agreed with a point made by the delegation of Norway that the reference to marine oil in Section 2.1 Product Definition should be retained. The Committee also agreed to delete the square brackets from the provision for the Acid Value (Section 3.3.4) and extend the Slip Point range to the same range as the previous Standard (ie 31-44°C) The food additive provisions were made consistent with those of the Draft Standard for Specified Vegetable Fat Product.

33. The Committee agreed that the Draft Standard, subject to agreement on the provisions for Labelling, Sampling and Methods of Analysis, should be advanced to Step 8.

PROPOSED AMENDMENTS TO THE RECOMMENDED INTERNATIONAL STANDARD FOR EDIBLE RAPESEED OIL (CODEX STAN 24-1981)

34. The Committee had before it the proposed amendments at Step 5 as contained in ALINORM 83/17, Appendix VI and documents CX/FO 87/6 and Conference Room Document 2 containing comments from governments received in response to Circular Letters 1986/34 (FO) and 1983/30 (FO). The Committee recalled its discussions on the subject at its Twelfth Session when, following the adoption of a Standard for Low Erucic Acid Oil, a need was felt for amending the existing Standard for Edible Rapeseed Oil. It was agreed that the provision of brassicasterol should remain at not less than 5% and that there was no need to include a provision to declare the level of erucic acid (ALINORM 83/17, para 55-57).

35. The Committee noted the need for a Standard for edible rapeseed oil containing high erucic acid content since it is consumed widely by populations especially in India, Pakistan, Sri Lanka and a few other regions in the world. Most of the comments received from governments were on Section 3.1.9 GLC Ranges for Fatty Acid Composition.

36. The Committee discussed the limits for erucic acid in the Standard for Rapeseed Oil which might be influenced by any change in the limit set in the Standard for Low Erucic Acid Rapeseed Oil. While some delegations held the view that the present limit for erucic acid in low erucic acid rapeseed oil should be reduced to 2% other delegations considered that the present limit of 5% should be maintained. The observer from FOSFA pointed out that crops grown from seed sown by farmers retaining their previous year's crop of low erucic acid rapeseed would result after a few harvests in crops of rapeseed containing higher amounts of erucic acid because of reversion. The Committee agreed to retain the present limit of 5% for erucic acid in Standard for Edible Low Erucic Acid Rapeseed Oil.

37. The delegation of France supported by Italy proposed that the level of erucic acid in high erucic acid rapeseed oil should be in the range of 25-60%. The delegation of Canada drew to the attention of the Committee the existence of rapeseed oils especially from Eastern Europe which contained less than 25% of erucic acid. The Committee held the view that the range of erucic acid should be broad enough to cover the wide range of high erucic acid rapeseed oils, oils from intermediate varieties, as well as mixtures with low erucic acid rapeseed oil and agreed the range of 5-60% for erucic acid be maintained.

38. The Committee noted that the levels of oleic acid and erucic acid in rapeseed oil are inversely proportional to each other and agreed with the proposal of France to amend the range of oleic acid to 8 - 60% in the Rapeseed Oil Standard.

39. The observer from FOSFA informed the Committee of the results of a number of analyses of rapeseed oils for GLC fatty acid ranges and proposed the following fatty acid ranges, which received the full support of the Committee.

C <14	< 0.1
C 14:0	< 0.2
C 18:2	11 - 23
C 18:3	5 - 13

The Committee noted that the food additive provisions in the Standard would be amended according to decisions taken by the Committee with regard to the Standard on Specified Vegetable Fat Products.

40. The Committee decided to advance the amendments as contained in Appendix V to Step 8 of the procedure.

CONSIDERATION OF DRAFT STANDARD FOR BLACKCURRANT SEED OIL

41. The Committee had before it the draft standard for Blackcurrant Seed Oil at Step 3 as contained in CX/FO 87/7, and documents CX/FO 87/8 and Conference Room Document 3 containing comments from governments received in response to Circular Letter 1986/35 - FO. The Committee was also provided with additional information by the delegation of Switzerland on the nutritional value of the oil resulting from its high content of γ-linolenic acid.

42. The Committee considered the need for a separate Standard for Blackcurrant Seed Oil against the Codex criteria for the establishment of work priorities. It was noted that while there was little international trade (world production of the oil amounted to a few hundred tons) there were indications of international and regional market potential. Some delegations pointed out that the oil had certain dietetic properties and was likely to be marketed as a high value oil for special dietary uses only. Other delegations were of the opinion that blackcurrant seed oil was covered by the General Standard for Fats and Oils. The Committee noted that the proposed draft Standard followed the provisions of the General Standard and that the only significant differences were the provisions relating to GLC fatty acid ranges showing a high content of γ-linolenic acid.

43. After discussion, the Committee concluded that in the light of current trends and production and the fact that the General Standard for fats and oils covered all fats and oils not covered by separate standards, that it would be premature to embark upon elaboration of a separate standard for Blackcurrant Seed Oil. The Committee reaffirmed that blackcurrant seed oil was covered by the General Standards for fats and oils and noted that the issue of a separate Standard could be reexamined if appropriate at some future date.

DRAFT INTERNATIONAL CODE OF PRACTICE FOR STORAGE AND TRANSPORT OF EDIBLE OILS AND FATS IN BULK

44. The Committee had before it working paper CX/FO 87/9 and 87/10 and, Conference Room Documents 4, 5 and 11. In introducing the subject the Chairman said that Mr Berger of the delegation of Malaysia had produced a revised draft text (Conference Room Document 4) which took into account comments received on the text of his original paper.

45. After a brief introduction of the paper by the delegation of Malaysia, the Committee considered the text on a page-by-page basis. Several drafting amendments were made and these have been incorporated in the revised text at Appendix VII. The main comments made referred to the inspection and repair of the coatings of ships' tanks (Section 3.1.3), the materials used as coating products (Section 3.1.4(c)), the materials used for heating coils (Section 3.1.5(b)) and deterioration which could occur to the product being transported (Section 5.1). On this latter point the Committee agreed to add the following text to the introductory sentence in section 5.1: 'The susceptibility of an oil to deterioration depends on several factors including whether it is crude or refined or whether there are impurities present and these should be considered when transporting the oil'.

46. The Committee thought that the final sentence of subsection 5.1.2 on hydrolysis gave too much emphasis to palm oil and agreed that it should be deleted. The Committee also thought that the reference in section 6.1 to the practices proposed in the Code of Practice receiving wide endorsement was inappropriate and agreed to its deletion.

47. The Committee discussed the problems arising from the potential contamination of oil by previous and co-transported cargoes and other sources. It noted with concern the difficulties of preventing and tracing contamination because of the complex nature of the various shipments and trans-shipments. Furthermore, it was noted that the detection and removal of these contaminants is not always possible. The Committee considered that further work was still required on the issue of contaminants and noted that FOSFA was already studying this problem and agreed to coordinate future work. The Committee supported this work, encouraged member countries and interested organisations to participate and asked that the Secretariat should be informed on a regular basis of any developments to ensure that any necessary amendments could be incorporated into the Code of Practice.

48. The Committee agreed that the Draft Code of Practice (Appendix VII) should be advanced to Step 5 with a recommendation to the Commission that Steps 6 and 7 be omitted so that it could be adopted at Step 8 by the Commission.

REVIEW OF LABELLING PROVISIONS IN CODEX STANDARDS FOR FATS AND OILS

49. The Committee had before it documents CX/FO 87/18 and Conference Room Document 12. The Chairman of the *ad hoc* Working Group on the Revision of Labelling Provisions in Standards for Fats and Oils (WG III), Dr Pittet of Switzerland, introduced the Report of the *ad hoc* Working Group.

50. He pointed out that the Working Group had limited its consideration to a review of the labelling provisions in the Standards for fats and oils with a view to aligning them with the recently adopted revised General Standard for the Labelling of Prepackaged Foods, having regard to the guidelines on Labelling Provisions in Codex Standards.

51. The Chairman of the Working Group informed the Committee that the Working Group had complied with the request of the Commission to express the provisions in the individual Standard by cross-reference to the relevant provisions of the General Standard, wherever appropriate. The Committee agreed to consider the general issue of the revision set forth in the Working Group report and to take up specific issues relating to the Olive Oils Standard.

52. The Committee agreed with the recommendations of the Working Group as contained in its Report (Appendix VI).

53. The delegation of Italy stated its reservation on the quantitative declaration of ingredients (Section 5.1 of the General Standard) since in its country negative claims were not permitted.

54. The Committee also agreed that the amended versions of the labelling provisions in Codex Standards for Fats and Oils and the labelling sections of the Standards still under consideration should be submitted to the CCFL for endorsement. The above mentioned labelling provisions are contained in Appendices XI and XII to this Report. The amendments defined as "substantive" would be considered to be "consequential" if the same provisions were adopted by the Commission in connection with Step 8 Standards.

55. The Chairman expressed the appreciation of the Committee to the Chairman, rapporteur and the members of the ad hoc Working Group for their work.

CONSIDERATION OF AMENDMENTS TO THE CODEX STANDARD FOR OLIVE OIL, VIRGIN AND REFINED, AND FOR OLIVE-RESIDUE OIL

56. The Committee had before it papers CX/FO 87/11, CX/FO 87/12 and Conference Room Document No 7 which contained replies received to CL 1986/1-FO and Conference Room Document No 6. The Chairman advised the Committee that the IOOC Secretariat had prepared in Conference Room Document No 6 a revised version of the Codex Standard for Olive Oils which took into account all the previous amendments made to the Standards as well as the more recent decisions made by the IOOC. The Chairman suggested that the Committee should work entirely from this document and asked the observer from the IOOC to introduce the paper.

57. The observer from the IOOC stated that many changes in the revised version arose from the use of the term olive-pomace oil instead of olive residue oil. Furthermore, the distinction between "mixtures" and "blends" no longer existed and only the term "blend" was used. The Committee agreed with these proposals and the resulting changes to the Standard. At the suggestion of the Chairman, the observer from the IOOC proceeded to describe section by section the remaining proposed changes to the Standard. The observer from FOSFA suggested for consistency that the fatty acids in Section 3.1.1 should use the same nomenclature as in other Codex Standards for fats and oils. The observer from the AOAC also questioned the differences in presentation of ranges for minor fatty acids and the meaning of "discernible". The Committee noted these comments and agreed that the section should be amended accordingly and encouraged further work to be carried out that would enable the C12:0 and C22:1 fatty acid limits to be expressed with more precision. In section 3.1.2.12, the delegation of the Federal Republic of Germany reminded the Committee that the method of analysis prescribed in the Standard for determining the sterol composition did not separate $\Delta 5$ - avenasterol from beta-sitosterol and that a footnote should be added to this effect. This was agreed. The Committee also agreed to add a further provision in section 3.1.2.13 for "Blends of refined olive pomace oil and virgin olive oil" with a maximum level of 2.0% m/m. The delegation of Italy noted that it would have preferred a peroxide value of 15 for blends in section 3.2.3.

58. The proposals in the Labelling provisions (Section 7) of the Standard caused the Committee some concern. The observer of IOOC stated that since alpha-tocopherol was the only additive permitted in olive oil and could only be used to restore tocopherol lost during processing, it was not considered necessary to include a provision for a List of Ingredients. The Chairman of the Working Group on Labelling suggested that since olive oil was a single ingredient product the provisions of the Codex General Standard for the Labelling of Pre-packaged Foods might suggest that added alpha-tocopherol need not be declared in the list of ingredients. It was noted that other Codex Standards for edible vegetable oils contained provisions for the use of colours and flavours to restore these components lost during processing and that according to the general labelling provisions any such additives would have to be declared in the list of ingredients. There did not seem to be any reason why a similar practice of restoring lost tocopherols in olive oil should be exempted from labelling. However, there was a case for consulting the Codex Committee on Food Labelling on this point. The delegation of France observed that it would be impossible to detect added tocopherols but other delegations observed that this was also the case for added tocopherols, and indeed for added natural colours and flavours, in other edible fats and oils where the Standards require such additions to be declared. After further discussion, the Committee agreed that a new section should be added at section 7.2 requiring ingredients to be listed in accordance with the General Standard on Labelling.

59. The Committee also discussed in detail the proposed section 7.6 Date Marking and Storage Conditions. The delegation of the United States noted that the proposed requirements in this section would require two dates to be declared, the packing date as well as the date of minimum durability and this would cause confusion. Furthermore, the delegation of Switzerland considered that a provision specifying the shelf-life of the product was in fact inappropriate as determination of shelf-life should be left to manufacturers. This position was supported by other delegations. The Committee therefore agreed that the requirement for the declaration of a packing date as well as the provision specifying the shelf-life should be deleted. The remaining provisions were in accord with section 4.7 of the General Standard on Labelling and could therefore be made by reference. The Committee also agreed that sections on 'Instructions for Use' and "Quantitative Declaration of Ingredients" should be added to the Standard and that these would refer respectively to sections 4.8 and 5.1 of the General Standard on Labelling. A fully revised version of Section 7 Labelling is given in Appendix VIII to this report and will be incorporated into the Standard by the Secretariat.

60. The Committee agreed with the suggestion of the observer of IOOC that the text for the methods CAC/RM 20-1970 to CAC/RM 27-1970 inclusive should be transferred to Part V of Codex Alimentarius Volume XI. The Committee agreed to advance the revised Standard as given in Appendix VIII to Step 5 of the Procedure with the recommendation that Steps 6 and 7 be omitted.

CONSIDERATION OF COMMENTS ON AMENDMENTS TO CODEX STANDARDS FOR INDIVIDUAL FATS AND OILS AND REVIEW OF GLC FATTY ACID RANGES

61. The Committee had before it paper CX/FO 87/13, CX/FO 87/14 and ALINORM 83/17, Appendix II. The Chairman reminded the Committee that the Commission had considered these Draft Amendments at its 15th Session and had decided the following:

(1) Amendment 1: This was advanced to Step 6 of the Procedure while noting that the word "shall" should have been in square brackets.

(2) Amendment 2: This was advanced to Step 6 of the Procedure.

(3) Amendment 3: This was advanced to Step 8 of the Procedure but the Commission did not agree that the GLC fatty acid ranges were mandatory.

The Committee had no further comments on Amendment 1 except to delete the square brackets from 'shall' and agreed to advance the Amendment as given in Appendix XIII to Step 8. It was agreed that the fatty acid ranges should be applied in a similar way to both the raw materials and edible product.

62. In the discussion of Amendments 2 and 3 the Chairman then reminded the Committee that the Commission at its 15th Session had decided that GLC fatty acid ranges were not mandatory identity criteria and were purely advisory. The Chairman asked the Committee for its opinion on this decision and whether the reasons for the decision were valid. The Chairman also reminded the Committee of the history of GLC fatty acid ranges by quoting from the report of its 12th Session (ALINORM 83/17 paras 24-27) and noting that the Commission had in fact been asked to reaffirm earlier decisions of the Committee that fatty acid ranges were mandatory. The delegation of the United States stated that his country had not adopted the earlier Codex Standards for edible oils because they did not include fatty acid ranges which his country considered essential identity criteria. The delegation also observed the Commission did not normally discuss technical issues as it relied on the specialist advice of its Committees. The delegations of Belgium and Federal Republic of Germany both expressed the view that more reliable and narrower fatty acid ranges would have to be agreed if they were to be applied as mandatory identity criteria. The Chairman then proposed that the Committee should consider the report of the *ad hoc* Working Group on the Review of Fatty Acid Ranges so that a decision could be taken on the basis of up-to-date ranges.

Report of ad hoc Working Group

63. Mr W D Pocklington (IUPAC), Chairman of the *ad hoc* Working Group on the Review of GLC fatty acid ranges, introduced the report attached at Appendix X.

64. In discussion on low erucic acid rapeseed oil the delegation of Italy expressed a preference for retention of the present requirement for C22:1 of $<5\%$. This view was shared by the representative of FOSFA who thought that a limit lower than 5% might restrict world trade. In contrast the delegation of Canada pointed out that all its country's trade in low erucic acid rapeseed oil was at levels of $<2\%$. The Committee recalled its earlier decision on the Standard for Rapeseed Oil (paragraph 34-39) and agreed with the Chairman's suggestion that a level of $<2\%$ was a desirable objective but it was not appropriate to make an amendment at this time. The Committee agreed to widen the ranges for relative density to 0.914 - 0.920 and the saponification value to 182-193.

65. The Committee endorsed the remaining changes to the fatty acid ranges proposed by the Working Group although the delegation of Italy would have preferred the fatty acid range for C18:3 in soya bean oil to be extended to 5.5-11. The Committee also agreed that in the case of Palm Kernel Oil the iodine value range should be revised to 14.5-19.5.

66. The proposed changes contained in the Report of the *ad hoc* Working Group as amended by the Committee were advanced to Step 8 of the procedure with the recommendation that Step 6 and 7 be omitted as the amendments were not controversial. The delegation of Thailand placed a reserve on any changes to the current fatty acid ranges. FOSFA was invited to coordinate future work (see para 83). The Chairman on behalf of the Committee thanked the Chairman and the members of the Working Group for their work.

67. With the knowledge that the GLC ranges were being updated, the Chairman then asked the Committee to return to the question of whether fatty acid ranges were mandatory or otherwise. It was noted that if an oil had a fatty acid composition outside the stated range for an authentic oil of that description then it would be considered outside specification; if its fatty acid composition fell inside the stated ranges it might be authentic although additional confirmatory tests could be necessary. The delegation of the United States proposed the following amendment to Amendment 2 to make this point clearer

> "samples falling outside the GLC fatty acid ranges are not in complicance with the Standard. Supplementary non-mandatory criteria may be employed if it is considered necessary to confirm that a sample is in compliance with the Standard".

The Committee agreed (a) with this revised Amendment, which overcame the reservations previously expressed by all delegations, except Ireland, and (b) to request the Commission to reverse its previous decision (ALINORM 83/43 paras 279 and 280) so that the GLC fatty acid ranges would be mandatory. This agreement was reached on the understanding that the ranges would be regularly reviewed and revised as necessary.

68. The Committee agreed that the above revision of Amendment 2 as given in Appendix XIII should be advanced to Step 8 of the Procedure. The Committee also noted that the revised fatty acid ranges agreed earlier enhanced the value of the revised Amendment 2 and asked the Commission to reconsider its earlier decision and hence delete the relevant footnote in the present Standards.

69. The Chairman reminded the Committee that the Commission had rejected the mandatory application of fatty acid range for two reasons. Firstly, the manipulation of germ plasm might lead to oils having different fatty acid compositions and, secondly, that many developing countries did not have the equipment or trained technicians to determine GLC fatty acid ranges. The Committee considered that fatty acid ranges should not be advisory for the following reasons:

(1) A new Standard with a new title should be developed if an oil with a new fatty acid composition was developed by plant breeding which was sufficiently distinctive from the original oil.

(2) Many of the characteristics already adopted as mandatory criteria (eg iodine value, saponification value) were almost entirely dependent upon the fatty acid composition of the oil. In fact the iodine value of an oil may often be calculated from its fatty acid composition.

(3) The determination of fatty acid ranges by GLC was no longer considered exceptional as the technique had been developed for many years. It was considered by most chemists as the single most useful method for evaluating the nature of an oil.

(4) The delegation of Malaysia confirmed that almost all countries to which they exported palm oil were equipped with GLC equipment which was used routinely for quality control purposes. The delegation of Algeria supported this view and considered GLC fatty acid ranges were an essential parameter which they used.

(5) A number of the mandatory criteria already in Codex Standards for edible oils agreed by the Commission required the use of GLC analytical techniques. Examples included the determination of fatty acids at position-2 (Standard for Olive Oil) and the determinaiton of erythrodiol in grapeseed oil.

REVIEW OF METHODS OF ANALYSIS AND SAMPLING OF FATS AND OILS

70. The Committee had before it Working Papers CX/FO 87/15, CX/FO 87/16, CX/FO 87/17, CX/FO 87/19 and Conference Room Document 8. An ad hoc Working Group set up by the Committee had examined these papers and its report is at Appendix IX. Dr R Wood Chairman of the Working Group presented the main conclusions of the Working group to the Committee.

Problems of Detection and Estimation of Individual Oils/Fats in Admixture of Oils (CX/FO 87/15)

71. The Committee noted that admixture of fats and oils eg addition of lard to other fats could be undesirable on religious and other grounds.The Committee agreed with the conclusions of the Working Group that the problems raised by India were not easy to resolve and that the efforts being made by various organisations, which had not so far yielded positive results should be encouraged. In the absence of quantitative methodology, qualitative methods for the detection of individual oils in mixtures of oils should be developed.

Determination of Erythrodiol Content of Grape Seed Oil (CX/FO 87/16)

72. The Committee agreed to the inclusion of the IUPAC method (which had been collaboratively tested) in the Codex Standard for Edible Grape Seed oil (CODEX STAN 127-1981) at Section 8.6 subject to its endorsement by the CCMAS. The Committee noted that precision of the method was improved when the erythrodiol content was expressed as a percentage of beta-sitosterol rather than on the basis of total sterols. The Committee agreed that section 3.1.6 of the Standard be amended to read

> "3.1.6 Erythrodiol Content - not less than 3% of the beta-sitosterol content".

Methods of Analysis for Draft Standards on i) Specified Vegetable Fat Product and ii) Specified Animal or Mixed Animal and Vegetable Fat Product (CX/FO 87/17)

73. The Committee agreed to the inclusion of the Methods of Analysis recommended by the Working Group in the draft Standards on i) specified vegetable fat product and ii) specified animal and animal and vegetable fat product taking into consideration the following observations made by it.

Determination of Volatile matter

74. The Committee noted that there was a discrepancy between the temperature (105°C) stated under the provision and that (103°C) recommended in the method for its determination. The Committee expressed the view that determination of volatile matter either at 105°C or 103°C gave similar values but that determination at the lower temperature of 103°C might take a longer time.

75. The Committee recommended that a temperature of 103°C should be specified for the determination of volatile matter by the recommended methodology and that no amendment to the limits was required. After endorsement by the CCMAS, all the provisions for determination of volatile matter in all Codex Standards for fats and oils should be amended accordingly but no changes to the limits were necessary.

Determination of Lead

76. The Committee noted that there was so far no fully collaboratively tested method for determination of lead in fats and oils. An IUPAC/ISO method, when validated and collaboratively tested, could be recommended.

Determination of Milk Fat Content

77. The Committee noted that the Working Group recommended the IUPAC method for determination of butyric acid in oils and fats could be used for estimation of cows' milk fat using a factor of 3.6% m/m for conversion of % butyric acid to % milk fat. The Committee also noted that there were at present no reliable factors to calculate the milk fat of other mammals and recommended that the provision should be amended to read "Determination of Cows' Milk Fat Content".

Determination of Iron and Copper

78. The Committee noted that the Working Group recommended AOCS Method Ca 18-79 for determination of iron and copper in fats and oils. The Committee noted that an IUPAC method for determination of iron and copper had been collaboratively tested and should be recommended as alternative (Type III) methods. The ISO had also elaborated a method for determination of iron and copper but this had not yet been published.

Sampling Procedures for Fats and Oils

79. The CCMAS at its 15th Session agreed to ask each Codex Commodity Committee to review its Methods of Sampling. Although this had not yet been endorsed by the Commission, the CCFO had initiated such a review. The Committee agreed with the Working Group that it was unnecessary to analyse each sample and that individual samples should be combined before analysis. A proposed sampling plan for edible soya bean oil appended to the report of the Working Group would be referred to the CCMAS for endorsement and when endorssed similar plans would be included in other Codex Standards for fats and oils.

80. The Committee noted that the CCMAS had finalised the document. Instructions on Codex Sampling Procedures (CX/MAS 1-1987) which contained appropriate definitions, eg on lot, that would assist Codex Commodity Committees to develop sampling plans for the Standards they had elaborated. The Committee thanked the Chairman and the members of the Working Group (See Appendix IX) for their work.

OTHER BUSINESS

81. None.

DATE AND PLACE OF NEXT SESSION

82 The Chairman, noted that the Commission expected this Committee to be adjourned sine die and reminded the Committee that a mechanism existed within th Codex procedures for any outstanding areas of work to continue. The main areas identified by the Committee during the Session as requiring further work included:

(a) fatty acid ranges;
(b) certain aspects of The Draft Code of Practice for the Storage, Handling and Transport of Edible Oils in Bulk particularly in relation to contamination;
(c) on-going revision of methods of analysis and sampling; and
(d) review of existing Standards as matters develop.

83. The Joint FAO/WHO Secretariat would act as a focal point and would for example initiate consequential changes to Standards following decisions of JECFA and notify the UK Secretariat who would in turn bring such matters to the attention of member delegations by correspondence. The Chairman expressed his and the Committee's appreciation to FOSFA for offering their assistance on further work on fatty acid ranges and contaminants.

[Secretariat Note: Any correspondence to FOSFA should be addressed to The Chief Executive, FOSFA International, 24 St Mary Axe, London EC3A 8ER, United Kingdom].

84. With the above reassurances, the Committee agreed to adjourn sine die.

85. Mr G O Kermode (FAO/WHO) expressed the appreciation of the two Directors General of FAO and WHO to the UK Government for all the facilities and the excellent technical servicing that had been provided to the Committee through its 23 years existence. He also expressed the appreciation of the two agencies that the Committee was only being adjourned, that the UK would continue to accept responsibility for the Chairmanship of the Committee, and that staff in the UK Ministry of Agriculture, Fisheries and Food would continue to guide and keep in safe trust the developments which should properly come before the Committee in the years ahead.

ALINORM 83/17
APPENDIX I

LIST OF PARTICIPANTS
LISTE DES PARTICIPANTS
LISTA DE PARTICIPANTES

Chairman :) Dr W H B Denner
Président :) Ministry of Agriculture
Presidente :) Fisheries and Food
Great Westminster House
Horseferry Road
London SWIP 2AE
United Kingdom

ALGERIA
ALGERIE
ARGELIA

M Alem
Ministere du Commerce
Alger

R Boussendji
Chef de Department
Loboratoire du Contrôle de Qualité
Ministere du Commerce
Alger

AUSTRIA
AUSTRICHE

Dr E Schmidl
Osterreichishe Unilever Ges M B H
A 3462 Utzenlaa 12

BELGIUM
BELGIQUE
BELGICA

R J L Van Havere
Food Inspection Service
Ministry of Public Health
R A C Vesalius
1010 Brussels

P Holemans
Belgian Food Manufacturers'
Borrewater Straat 182
2060 MERKSEM

CANADA

Dr J K G Kramer
Animal Research Centre
Research Branch
Agriculture Canada
Ottawa
Ontario K1A 0C6

DENMARK
DANEMARK
DINAMARCA

H Iversen
Aarhus Oliefabrik A/S
Bruunsgade 27
8000 Aarhus

EGYPT
EGYPTE
EGIPTO

A E A Nabil
6 Adly St
Cairo

FINLAND
FINLANDE
FINLANDIA

Dr E Petäjä
Director
Customs Laboratory
Tekniikantie 13
02150 ESPOO

T T Aalto
State Control Office For Dairy Products
Sirrikuja 1
00970 Helsinki

FRANCE
FRANCIA

Mr Hochard
Inspecteur
Ministere de L'Economie
des Finances et de la Privatisation
D G C C R F
13 rue Saint-Georges
75009 - Paris

FRANCE (Contd)

Mr Wolff
Directeur Général Honoraire
ITERG
Institut des corps gras
10 rue de la Paix
75002 - Paris

GERMANY, Fed. Rep. of
ALLEMAGNE, Rep. Fed. d
ALEMANIA, Rep. Fed. de

Dr W Hellwig
Bundesministerium Für Jugend, Familie,
Frauen und Gesundheit
Deutschherrenstrasse 87
D - 5300 Bonn 2

Dr K Trenkle
Regierungsdirektor
Bundersministerium für Ernährung
Landwirtschaft und Forsten
Rochusstrasse 1
D - 5300 Bonn 1

Dr H Wessels
Direktor und Professor
Bundesanstalt für Fettforschung
Piusallee 76
D - 4400 Münster

Dr A Thomas
Deutsche Unilever GmbH
Dammtorwall 15
D - 2000 Hamburg 36

HUNGARY
HONGRIE
HUNGARIA

Dr Eva Kurucz
General Director of the Hungarian
Vegetable Oil and Detergen Industry
Budapest XV HORVAT M.U.2
H - 1151

Dr Máriá Jeranek
Director
Research Institute for Vegetable
Oil and Detergent Industry
Budapest XV HORVAT M.U.2
H - 1151

IRELAND
IRELANDE
IRLANDA

J A Kehoe
Assistant Principal Officer
Dept. of Industry and Commerce
Kildare Street
Dublin 2

R H Murray
Margarine Manufacturers' Association
of Ireland
Naomh Phroinnsias
Mornington
Near Drogheda
Co. Louth

ITALY
ITALIE
ITALIA

E G Fedeli
Stazione Sperimentale Olii e Grassi
Via Giuseppe, Columbo 79
20122 Milano

R Monacelli
Istituto Sanità
V Regina Elena 299
00161 Roma

Dr P Di Gregario
Unaprol
Via Di Villa Sachetti 21
00100 Roma

E Tiscornia
Instituto Analisi e Tecnologie
Alimentari - Università
Viale Cembrano, 4
16147 Genova

JAPAN
JAPON

K Oishi
Senior Staff
Consumers Economy Division
Food and Marketing Bureau
Ministry of Agriculture, Forestry and
Fisheries
12-1 Knsumignseki, Chiyoda-Ku
Tokyo 100

A Nishioka
Technical Adviser
Japan Oilseed Processors Association
7-41 Daikoku-Cho
Tsurumi-Ku
Yokohama City 230

KENYA
KENIA

Dr J P Nthuli
Senior Veterinary Officer
Ministry of Livestock Development
Veterinary Laboratories
P O Kabete
Kenya

MALAYSIA
MALAISIE
MALASIA

Dr Mohd Salleh Kassim
Director of Enforcement/Licensing
Palm Oil Registration and Licensing
Authority (PORLA)
P O Box 12184
50770 Kuala Lumpur

Dr O Atil
Research Officer
PORIM
P O Box 10620
50720 Kuala Lumpur

K G Berger
Consultant
Palm Oil Research Institute of
Malaysia (PORIM)
P O Box 10620
50720 Kuala Lumpur

NETHERLANDS
PAYS-BASS
PAISES BAJOS

P J Mathot
Ministry of Welfare, Health and
Cultural Affairs
P O Box 5406
2280 HK Rijswijk (Z.H.)

Dr R F van der Heide
Ministry of Welfare, Health and
Cultural Affairs
P O Box 5406
2280 HK Rijswijk (Z.H.)

L van 't Hof
Commission for the Dutch Food and
Agricultural Industry
V.d. Berghen Jurgens B.V.
Nassaukade 3
3071 JR Rotterdam

R Norg
Commodity Board for Margarine, Fats
and Oils
P O Box 29739
2502 LS The Hague

NORWAY
NORVEGE
NORUEGA

J Race
Food Control Board/Codex Alimentarius
P O Box 8139 Dep.
N - 0033 Oslo 1

O M Krog
A/S Denofa og Lilleborg Fabriker
P O Box 40
N - 1601 Fredrikstad

G Lambertsen
Directorate of Fisheries, Nutrition
Institute
P O Box 4285
N - 5013 Nygordstangen
Bergen

N Roaldsøy
Chief of Division
Ministry of Agriculture
P O Box 8007
N - 0030 Oslo 1

PEOPLE'S REPUBLIC OF CHINA
CHINE

J Yongyu
45 Fu Xingmennei St
Beijing

W Yanxia
Xian Oil and Fat Research Institue
Ministry of Commerce
Xian

L Zuliang
No 1, Qunhuang - cun
Xi Zhi Men Wai
Beijing

PORTUGAL

Mrs A D A Martins
Instituto de Qualidade Alimentar
of the Ministry of Agriculture
Rua Alexandre
Herculano 6
1000 Lisboa

SPAIN
ESPAGNE
ESPANA

A Bardon
Ministerio Agricultura Pesca Y
Alimentacion
P Infanta Isabel, 1
Madrid

SPAIN (Contd)

J M Vallejo
Ministerio Agriculturra Pesca
Alimentacion
P Infanta Isabel, 1
28007 - Madrid

SWEDEN
SUEDE
SUECIA

Professor L Reio
Nordic Committee for Food Analysis
National Food Administration
Box 622
S - 751 26 Uppsala

Dr R Ohlsson
Karlshamns Oljefabriker
S - 292 00 Karlshamn

SWITZERLAND
SUISSE
SUIZA

P Rossier
Federal Office of Public Health
Haslerstrasse 16
CH-3008 Berne

Dr Ph Pittet
Nestec SA
Av Nestle 55
CH - 1800 Vevey

G Huschke
F Hoffmann - La Roche & Co AG
CH - 4002 Basel

THAILAND
THAILANDE
TAILANDIA

Mrs R Panpaprai
Director of Biological Science
Division
Ministry of Science, Technology
and Energy
Rama VI Road
Bangkok 10400

TUNISIA
TUNISIE
TUNEZ

T Amamou
Office National de I'huile
10 Avenue Mohamed 5
Tunis

UNITED KINGDOM
ROYAUME-UNI
REINO UNIDO

R C Gurd
Ministry of Agriculture, Fisheries
and Food
Great Westminster House
Horseferry Road
London SW1P 2AE

I Adams
Ministry of Agriculture, Fisheries
and Food
Great Westminster House
Horseferry Road
London SW1P 2AE

C A Cockbill
Ministry of Agriculture Fisheries
and Food
Great Westminster House
Horseferry Road
London SW1P 2AE

J H Morgan
Ministry of Agriculture, Fisheries
and Food
Great Westminster House
Horseferry Road
London SW1P 2AE

Dr R Wood
Ministry of Agriculture, Fisheries
and Food
65 Romney Street
London SW1P 3RD

J M Broadbent
Tropical Development and Research
Institute
56-62 Gray's Inn Road
London WC1X 8LU

USA
EUA
EEUU

Dr R W Weik
Assistant to Director
CFSAN - HFF 4
Food and Drugs Administration
200 C Street SW
Washington DC 20204

T L Mounts
Northern Regional Research Centre,
ARS/USDA
1815 North University
Peoria
Illinois, 61614

YUGOSLAVIA
YOUGOSLAVIE

Mrs L Rajcić
Tvornica Ulja
Zagreb

Mrs D Ivetić
Tvornica Ulja
Zagreb

INTERNATIONAL ORGANISATIONS
ORGANISATIONS INTERNATIONALES
ORGANIZACIONES INTERNATIONALES

ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS (AOAC)

Dr D Abbott
AOAC Representative - UK
Green Gables, Green Lane
Ashtead, Surrey KT21 2JP

AMERICAN OIL CHEMISTS' SOCIETY (AOCS)

T L Mounts
Northern Regional Research Centre,
ARS/USDA
1815 N University
PEORIA
ILLINOIS, 61614

EUROPEAN FOOD LAW ASSOCIATION (EFLA/AEDA)

G O Kermode
International President
3 Boulevard de la Cambre
B - 1050 Brussels

FEDERATION OF OILS, SEEDS AND FATS ASSOCIATION (FOSFA)

Dr J B Rossell
Leatherhead Food Research Association
Randalls Road
Leatherhead
Surrey KT22 7RY

M Pike
54 Middle Gordon Road
Camberley
Surrey GU15 2HT

INTERNATIONAL ASSOCIATION OF FISH MEAL MANUFACTURERS (IAFMM)

Dr S M Barlow
Hoval House
Orchard Parade
Mutton Lane
Potters Bar
Herts.

INTERNATIONAL DAIRY FEDERATION (IDF)

R A Dicker
Research and Development Division
Dairy Crest House
Portsmouth Road
Surbiton KT6 5QL
Surrey

INTERNATIONAL FEDERATION OF MARGARINE ASSOCIATIONS (IFMA)
MARGARINE AND SHORTENING MANUFACTURS ASSOCIATION (MSMA)

I Hodac
74 Rue de la Loi - Bte 3
1040 Brussels

A Leon
74 Rue de la Loi Bte 3
1040 Brussels

Dr B Nichols
Van Den Bergh and Jurgens
Sussex House
Burgess Hill

INTERNATIONAL OLIVE OIL COUNCIL (IOOC)

Mrs B Pajuelo
Juan Bravo 10 2º - 3º
28006 Madrid

INTERNATIONAL STANDARDS ORGANISATION (ISO)

C T Ashton
2 Park Street
London W1A 2BS

INTERNATIONAL UNION OF PURE AND APPLIED CHEMISTRY (IUPAC)

W D Pocklington
Laboratory of the Government Chemist
Cornwall House
Waterloo Road
London SE1 8XY

JOINT SECRETARIES (UK SECRETARIAT)
CO-SECRETAIRES
COSECRETARIOS

K Millar
Dr R Burt
Ministry of Agriculture, Fisheries
and Food
Great Westminster House
Horseferry Road
London SW1P 2AE

JOINT FAO/WHO SECRETARIAT

Dr N Rao Maturu
Mrs B M Dix
Food Standards Officers
Joint FAO/WHO Food Standard
Programme
FAO, 00100 Rome

G Kermode
Consultant
Food Safety Unit
Division of Environmental Health
WHO
1211 Geneva 27

DRAFT STANDARD FOR SPECIFIED VEGETABLE FAT PRODUCT
(At Step 8)

1. SCOPE

This standard applies to any vegetable fat product sold as an alternative to ghee.

2. DESCRIPTION

2.1 Product Definitions

2.1.1 A semi-solid product which consists of an edible vegetable fat or a blend of edible vegetable oils and fats complying with the provisions of this standard.

2.2 Other Definitions

2.2.1 Edible vegetable fats and oils means foodstuffs composed mainly of glycerides of fatty acids. They may contain small amounts of other lipids such as phosphatides and of unsaponifiable constituents and of free fatty acids naturally present in fat or oil. They are obtained only from vegetable sources and include fats and oils that have been subjected to processes of modification including hydrogenation.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Raw Materials

3.1.1 Edible fats and/or oils of vegetable origin or mixtures of these whether or not they have been subjected to a process of modification. The laws and customs of the country in which the product is sold may require the presence or absence of specific vegetable oils or fats.

3.2 Fat Content

3.2.1 Not less than 99.5 per cent m/m.

3.3 Quality Characteristics

3.3.1 Colour: Creamy white to yellow.

3.3.2 Odour and Taste: Characteristic and free from foreign odour and tastes.

3.3.3 Texture: Ranges from granular solid fat crystals dispersed in an oil phase to a smooth finely crystalline texture.

3.3.4 Acid Value: Not more than 0.6 mg KOH/g.

3.3.5 Peroxide Value: Not more than 10 milliequivalents of peroxide oxygen/kg.

3.3.6 Slip Point: Between 31-44°C].

3.4 Optional Ingredients

The following substances may be added to specified vegetable fat products.

3.4.1 Vitamins:
- Vitamin A and its esters
- Vitamin D
- Vitamin E and its esters
- Other Vitamins

Maximum and minimum levels for Vitamins A, D and E and other Vitamins should be laid down by national legislation in accordance with the needs of each individual country including, where appropriate, the prohibition of the use of particular Vitamins.

4. FOOD ADDITIVES (To be endorsed by CCFA)

4.1 Colours

The following colours are permitted for the purpose of restoring natural colour lost in processing or for the purpose of standardizing colour, as long as the added colour does not deceive or mislead the consumer by concealing damage or inferiority or by making the product appear to be of greater than actual value:

	Maximum Level
4.1.1 Beta-carotene	25 mg/kg
4.1.2 Annatto extracts	20 mg/kg (calculated as total bixin or norbixin)
4.1.3 Curcumin or Turmeric	5 mg/kg (calculated as total curcumin)
4.1.4 Canthaxanthine	25 mg/kg
4.1.5 Beta-apo-8'-carotenal	25 mg/kg
4.1.6 Methyl or ethyl esters of beta-apo-8'-carotenoic acid	25 mg/kg

4.2 Flavours

Natural flavours and their identical synthetic equivalents, except those which are known to represent a toxic hazard, and other synthetic flavours approved by the Codex Alimentarius Commission are permitted for the purpose of restoring natural flavour lost in processing or for the purpose of standardizing flavour, as long as the added flavour does not deceive or mislead the consumer by concealing damage or inferiority or by making the product appear to be of greater than actual value.

4.3 Antioxidants

		Maxiumum Level
4.3.1	Propyl gallate	100 mg/kg
4.3.2	Butylated hydroxytoluene (BHT)	) 75 mg/kg
4.3.3	Butylated hydroxyanisole (BHA)	) 175 mg/kg
4.3.4	Tertiary butyl hyroquinone (TBHQ)	) 120 mg/kg
4.3.5	Any combination of propyl gallate, BHA, BHT, and/or TBHQ	200 mg/kg, but limits in 4.3.1-4.3.4 not to be exceeded
4.3.6	Natural and synthetic tocopherols[1]	500 mg/kg
4.3.7	Ascorbyl palmitate	) 500 mg/kg
4.3.8	Ascorbyl stearate	) individually or) in combination
4.3.9	Dilauryl thiodipropionate	200 mg/kg

4.4 Antioxidant synergists

4.4.1	Citric acid	Limited by GMP
4.4.2	Sodium citrate	Limited by GMP
4.4.3	Isopropyl citrate mixture	) 100 mg/kg
4.4.4	Phosphoric acid	) individually or
4.4.5	Monoglyceride citrate	) in combination

4.5 Anti-foaming agent

Dimethyl polysiloxane (dimethyl silicone) singly or in combination with silicon dioxide	) 10 mg/kg)

5. CONTAMINANTS

		Maximum Level
5.1	Matter volatile at 103°C	0.2% m/m
5.2	Insoluble impurities	0.05% m/m
5.3	Soap content	0.005% m/m
5.4	Iron (Fe)	1.5 mg/kg
5.5	Copper (Cu)	0.1 mg/kg
5.6	Lead (Pb)	0.1 mg/kg
5.7	Arsenic (As)	0.1 mg/kg

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[1] Many vegetable oils naturally contain levels of tocopherols higher than the proposed maximum permitted level for added tocopherols.

6. HYGIENE

It is recommended that the product covered by the provisions of this standard be prepared in accordance with the appropriate sections of the General Principles of Food Hygiene recommended by the Codex Alimentarius Commission (Ref. No. CAC/RCP 1-1959 Rev. 1).

7. PACKAGING

When sold by retail, the product shall be prepackaged and may be sold in a pack of any shape.

8. LABELLING (To be endorsed by CCFL)

See ALINORM 87/17 Appendix XII A.

9. METHODS OF ANALYSIS AND SAMPLING (To be endorsed by CCMAS)

See ALINORM 87/17 Appendix IX.

ALINORM 87/17
APPENDIX III

PROPOSED DRAFT STANDARD FOR SPECIFIED ANIMAL OR MIXED ANIMAL AND VEGETABLE FAT PRODUCTS.

(At Step 8)

1. SCOPE

This standard applies to any animal or mixed animal and vegetable fat product sold as an alternative to ghee.

2. DESCRIPTION

2.1 Product Definitions

A semi-solid product which consists of edible animal including marine fats with or without the addition of edible vegetable oils or fats complying with the provisions of this Standard.

2.2 Other Definitions

2.2.1 Edible fats and oils means foodstuffs composed of glycerides of fatty acids. They are of vegetable, animal or marine origin. They may contain small amounts of other lipids such as phosphatides, of unsaponifiable constituents and of free fatty acids naturally present in fat or oil. Fats of animal origin must be obtained from animals in good health, and if originating from slaughtered animals such animals should have been in good health at the time of slaughter and the fats fit for human consumption as determined by a competent authority recognised in national legislation (see Section 6). Fats and oils that have been subjected to processes of modification including hydrogenation are included.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Raw Materials

3.1.1 Edible fats and/or Oils

Edible fats and/or oils as defined in Section 2.2.1, whether or not they have been subjected to a process of modification. Those of animal origin may include Ghee prepared from milk of bovine origin and or Butteroil, Anhydrous Butteroil, Anhydrous Milk Fat complying with Standard No. A2 in the Code of Principles Concerning Milk and Milk Products (CAC/M1 -1973). The laws and customs of the country in which the product is sold may require the presence or absence of specific oils or fats.

3.2 Fat Content

3.2.1 Total Fat Content: Not less then 99.5 per cent m/m.

3.2.2 Fat derived from milk: If present, shall be not less than 10 per cent m/m.

3.3 Quality Characteristics

3.3.1 Colour: Creamy white to yellow.

3.3.2 Odour and Taste: Characteristic and free from foreign odour and tastes.

3.3.3 Texture: Ranges from granular solid fat crystals dispersed in an oil phase to a smooth finely crystalline texture.

3.3.4 Acid Value: Not more than 0.8 mg KOH/g.

3.3.5 Peroxide Value: Not more than 10 milliequivalents of peroxide oxygen/kg.

3.3.6 Slip Point: Between 31-44°C.

3.4 Optional Ingredients

The following substances may be added to specified animal and mixed animal and vegetable fat products.

3.4.1 Vitamins: Vitamin A and its esters
Vitamin D
Vitamin E and its esters
Other Vitamins

Maximum and minimum levels for Vitamin A, D and E and other Vitamins should be laid down by national legislation in accordance with the needs of each individual country including, where appropriate, the prohibition of the use of particular Vitamins.

4. FOOD ADDITIVES (To be endorsed by CCFA.)

4.1 Colours

The following colours are permitted for the purpose of restoring natural colour lost in processing or for the purpose of standardizing colour, as long as the added colour does not deceive or mislead the consumer by concealing damage or inferiority or by making the product appear to be of greater than actual value:

		Maximum Level
4.1.1	Beta-carotene	25 mg/kg
4.1.2	Annatto extracts	20 mg/kg (calculated as total bixin or norbixin)
4.1.3	Curcumin or Turmeric	5 mg/kg (calculated as total curcumin)
4.1.4	Canthaxanthine	25 mg/kg
4.1.5	Beta-apo-8'-carotenal	25 mg/kg
4.1.6	Methyl and ethyl esters of beta-apo-8' carotenoic acid	25 mg/kg

4.2 Flavours

Natural flavours and their identical synthetic equivalents, except those which are known to represent a toxic hazard, and other synthetic flavours approved by the Codex Alimentarius Commission are permitted for the purpose of restoring natural flavour lost in processing or for the purpose of standardizing flavour, as long as the added flavour does not deceive or mislead the consumer by concealing damage or inferiority or by making the product appear to be a greater than actual value.

4.3 Antioxidants

			Maximum Level
4.3.1	Propyl gallate		100 mg/kg
4.3.2	Butylated hydroxytoluene (BHT)	)	75 mg/kg
4.3.3	Butylated hydroxyanisol (BHA)	)	175 mg/kg
4.3.4	Tertiary butyl hydroquinone (TBHQ)	)	120 mg/kg
4.3.5	Any combination of propyl gallates BHA BHT, and/or TBHQ		200 mg/kg, but limits in 4.3.1-4.3.4 not to be exceeded
4.3.6	Natural and synthetic tocopherols		500 mg/kg
4.3.7	Ascorbyl palmitate	)	500 mg/kg individually or in combination
4.3.8	Ascorbyl stearate	)	
4.3.9	Dilauryl thiodipropionate		200 mg/kg

4.4 Antioxidant synergists

4.4.1	Citric acid		Limited by GMP
4.4.2	Sodium Citrate		Limited by GMP
4.4.3	Isopropyl citrate mixture	)	100 mg/kg individually or in combination
4.4.4	Phosphoric acid	)	
4.4.5	Monoglyceride citrate	)	

4.5 Anti-foaming agent

Dimethyl polysiloxane (dimethyl silicone) singly or in combination with silicon dioxide	)	10 mg/kg

5. CONTAMINANTS

5.1	Matter volatile at 103°C	0.2% m/m
5.2	Insoluble impurities	0.05% m/m
5.3	Soap content	0.005% m/m
5.4	Iron (Fe)	1.5 mg/kg
5.5	Copper (Cu)	0.1 mg/kg
5.6	Lead (Pb)	0.1 mg/kg
5.7	Arsenic (As)	0.1 mg/kg

6. HYGIENE

It is recommended that the product covered by the provisions of this standard be prepared in accordance with the appropriate sections of the General Principles of Food Hygiene recommended by the Codex Alimenentarius Commission (Ref. No. CAC/RCP 1-1969 Rev 1.) and the Recommended International Code of Hygienic Practice for Processed Meat Products (CAC/RCP 19-1976).

7. PACKAGING

When sold by retail, the product shall be prepackaged and may be sold in a pack of any shape.

8. LABELLING (To be endorsed by CCFL)

See ALINORM 87/17 Appendix XII B.

9. METHODS OF ANALYSIS AND SAMPLING (To be endorsed by CCMAS)

See ALINORM 87/17 Appendix IX.

APPENDIX IV

TECHNOLOGICAL JUSTIFICATION OF FOOD ADDITIVE PROVISIONS

DRAFT STANDARD FOR SPECIFIED VEGETABLE FAT PRODUCT

DRAFT STANDARD FOR SPECIFIED ANIMAL OR MIXED ANIMAL AND VEGETABLE FAT PRODUCT

The Codex Committee on Fats and Oils considered the food additive provisions in the above Draft Standards and, in particular, discussed the technological justification for the use of the various classes of additives and the maximum usage levels of the additives bearing in mind the ADI s allocated by JECFA. The Committee agreed the following technological justification.

COLOURS

The refining process of most edible oils includes a stage in which the natural pigments and certain impurities present in the oil are removed by the addition of bleaching earth. This process gives a product with a low but variable colour content and in order to improve its acceptability to the consumer, certain colours are added to restore the natural colour or standardize the colour.

FLAVOURS

Edible oils are usually deodorised prior to consumption to remove foreign odours and tastes by heating the oil at high temperatures in a current of steam. Flavours are sometimes added to restore the natural flavour lost in processing or for the purpose of standardizing flavours.

ANTIOXIDANT

The major route of deterioration of edible oils is through oxidation which is a particular problem in hot climates where many of the products covered by these Standards are marketed. The addition of antioxidants to the product will give the product an extended shelf-life thus reducing wastage and ensuring safer and better quality products for the consumer. Some antioxidants when used in combination have a synergistic effect thus enabling lower levels of antioxidant to be used to acheive a desired effect. In addition to these considerations, some countries only permit certain antioxidants while other countries permit a different range, thus a much longer list of antioxidants is required to cover the requirements of all countries.

ANTIOXIDANT SYNERGIST

A major cause of the oxidative instability of oil and fats is due to the catalytic effect of low levels of metals particularly iron and copper. The addition of small amounts of synergist such as citric acid or its salt to the oil will chelate to any free metal ions present thus inhibiting their prooxidant effect.

ANTIFOAMING AGENT

The products covered by these Standards are frequently used for frying foods and foaming of the oils can be a major safety problem. The addition of an antifoaming agent significantly reduces the danger of foaming and, since the surface area of the oil exposed to air is considerably reduced, a useful increase in the life of the oil can also be achieved.

PROPOSED AMENDMENTS TO THE RECOMMENDED INTERNATIONAL STANDARD FOR EDIBLE RAPESEED OIL (CODEX STAN 24-1981)

(At Step 8)

1. SCOPE

This standard applies to Edible Rapeseed Oil but does not apply to edible low erucic acid rapeseed oil as defined in CODEX STAN 123-1981 nor to rapeseed oil which must be subjected to further processing in order to render it suitable for human consumption.

2. DESCRIPTION

As in CODEX STAN 24-1981.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Identity Characteristics

3.1.1	Relative Density (20°C/water at 20°C)	0.910 - 0.920
3.1.2	Refractive Index (nD 40°C)	1.465 - 1.469
3.1.3	Saponification Value (mg KOH/g oil)	168 - 187
3.1.4	Iodine Value (Wijs)	94 - 120
3.1.5	Crismer Value	71 - 85
3.1.6	Unsaponifiable Matter	not more than 20 g/kg
3.1.7	Brassicasterol	not less than 5% of total sterols
3.1.8	Erucic Acid	more than 5% (m/m) of the component fatty acids

3.1.9 GCL Ranges of Fatty Acid Composition (%)

C <14	<0.1
C 14:0	<0.2
C 16:0	1.5-6.4
C 16:1	<3.0.
C 18:0	0.5-3.1
C 18:1	8-60
C 18:2	11-23
C 18:3	5-13
C 20:0	<3.0
C 20:1	3-15
C 20:2	<1.0
C 22:0	<2.0
C 22:1	5-60
C 22:2	<2.0
C 24:0	<2.0
C 24:1	<3.0

3.2 Quality Characteristics

As in CODEX STAN 24-1981.

4. FOOD ADDITIVES[1/]

As in Recommended International Standard for Edible Low Erucic Acid Rapeseed Oil (CODEX STAN 123-1981).

5. CONTAMINANTS As in CODEX STAN 24-1981.

6. HYGIENE As in CODEX STAN 24-1981

7. LABELLING[1/]

As in CODEX STAN 24-1981, together with Sections "Lot Identification", "Date Marking" and "Bulk Packs" as in the Recommended International Standard for Edible Low Erucic Acid Rapeseed Oil (CODEX STAN 123-1981).

8. METHODS OF ANALYSIS AND SAMPLING[1/]

As in the Recommended International Standard for Edible Low Erucic Acid Rapeseed Oil (CODEX STAN 123-1981).

[1/] Secretariat Note: These Sections will be amended to take into account decisions taken by CCFO at its Thirteenth Session subject to their endorsement by CCFA, CCFL and the CCMAS, respectively.

REPORT OF THE WORKING GROUP ON THE REVISION OF LABELLING PROVISIONS IN STANDARDS FOR FATS AND OILS (WG III)

1. The following members constituted the ad hoc Working Group:

PH Pittet (Chairman)	Switzerland
R F van der Heide	Netherlands
H Trenkle	Germany Fed Rep
J M Hockard	France
W Hellwig	Germany Fed Rep
R Van Havere	Belgium
S M Barlow	I.A.F.M.M.
B W Nichols	MSMA (UK) IFMA
P Holemans	Belgium
R H Murray	Ireland (MMAI)
J A Kehoe	Ireland
R C Gurd)	UK
J Morgan)	
A Leon	Holland (IFMA)
I Hodac	Denmark (IFMA)
R W Weik	US
John Kramer	Canada
Taula Aalto	Finland
Mohd Sallem Kassim	Malaysia
Nabil A Ali	Egypt
B. Dix (Rapporteur)	FAO

The above Working Group met under the Chairmanship of Dr Ph Pittet (Switzerland) to consider proposals on the amendment of labelling provisions in Codex Standards for fats and oils as set out in CX/FO 87/18 and to recommend to the Committee revised texts of the above provisions.

2. The Working Group was informed that the 16th session of the Commission had adopted a revised text of the General Standard for the Labelling of Prepackaged Foods, applicable to all foods. (Appendix IV to Alinorm 85/22A). It was noted that Codex Committees could include in their standards mandatory labelling provisions different from those in the General Standard, provided satisfactory justification for such action could be supplied.

3. The Working Group also noted that the Commission had adopted Guidelines on Labelling Provisions in Codex Standards (Appendix V to Alinorm 85/22A), to assist Codex Committees in the elaboration or revision of labelling provisions.

4. It was agreed to classify the amendments to the labelling provisions as either editorial, consequential or substantive. This classification would determine which type of amendment procedure was to be followed.

5. It was also agreed to consider the provisions individually and to make decisions on possible amendments in principle. The Secretariat would subsequently prepare the revised provisions for all standards for fats and oils.

PREAMBLE

6. The Working Group agreed that the preamble as amended was suitable for all standards elaborated by this Committee.

THE NAME OF THE FOOD

7. The Working Group noted that the guidelines recommended the use of the phrase "The name of the food to be declared on the label shall be ....". It was pointed out that in the case of edible oils the provision presently included in the standard was less restrictive; it required, however, that any food designated with the names included in the standard had to conform to the requirements set forth in the standard. The present provision did not prevent the use of other terms such as "vegetable oil" or "salad oil". The Working Group recommended the introduction of a footnote requiring governments to indicate which name(s) were used in their countries, and to retain the provision on the name of the food unchanged.

8. The Working Group recommended no change of the provisions dealing with modified products (Section 7.1.2).

9. The Working Group also recommended the same decisions concerning the standards for edible fats and for composite products such as margarine and minarine.

LIST OF INGREDIENTS

10. The Working Group noted that all Codex Standards for edible fats and oils contained provisions for the use of classnames of food additives, and some of the standards did require a full declaration of ingredients. The Working Group agreed to recommend that all standards should require a full declaration of ingredients in accordance with section 4.2 of the General Standard as a substantive amendment.

NET CONTENTS

11. The Working Group noted that section 4.3 of the General Standard required a mandatory declaration of the net contents in the metric system; the additional declaration in other systems of measurement was possible. Countries requiring a declaration of net contents in a non-metric system only would have to notify a specified deviation. The Working Group recommended the declaration of net contents in accordance with section 4.3 of the General Standard (substantive amendment).

NAME AND ADDRESS, COUNTRY OF ORIGIN, LOT IDENTIFICATION, DATE MARKING AND STORAGE INSTRUCTIONS

12. The Working Group was informed that the above provisions in the standards for fats and oils were identical to the relevant provisions in the General Standard. The Working Group therefore, recommended, that they should be repressed by reference to the General Standard (editorial amendments).

EXEMPTIONS FROM MANDATORY LABELLING REQUIRMENTS

13. The Working Group noted that section 6 of the General Standard provided for exemption from some of the labelling requirements on small units (largest area less than $10cm^2$) and decided to recommend the introduction of this provision in all Standards for fats and oils, even if such small packages may not exist for all products at the present time.

LABELLING OF NON-RETAIL CONTAINERS

14. The Working Group noted that the General Standard did not refer to the labelling of non-retail containers. However, the Guidelines on Labelling Provisions contained a definition of non-retailing containers as well as the proposal for the wording of such a provision. The Working Group agreed that a decision had to be taken on the type of information to be provided and on the place where it was to appear (ie on the label or on the accompanying documents).

15. The Working Group noted that the Milk Committee had requested the CCFL to reconsider the definition of non-retail containers which now embraced outer containers for pre-packaged foods as well as tanks or ship containers. In particular the Milk Committee had held the view that the date of minimum durability was unsuitable for large bulk containers, where the date of manufacture was more informative. In contrast outer containers of pre-packaged foods should carry the same date marking as the pre-packaged units.

16. After extensive discussions the Working Group agreed that also in the case of fats and oils the same considerations applied. The Working Group agreed that in the case of outer containers the same labelling requirements as for pre-packaged foods should apply, in principle. However, they should be given in accordance with the provision 5.3 in the Codex Guidelines on labelling provisions in Codex Standards.

This meant that the name of the food, the name and address and the lot identification had to be declared on the container. The latter two provisions could be replaced by an identification mark provided it was suitably explained in the accompanying documents. The other provisions applying the the pre-packaged food could either appear on the outer container or in the accompanying documents.

17. The Working Group recommended to the Plenary to request CCFL to reconsider the definition of non-retail containers, since it was impracticable to require the above provisions for large bulk containers (freight containers).

18. The Working Group recommended the introduction in all standards for fats and oils provisions for the labelling of outer containers.

INSTRUCTIONS FOR USE

19. The Working Group noted that the revised General Standard contained a provision on Instructions for Use (section 4.8.1) which read as follows:

> "Instruction for use, including reconstitution if applicable, shall be included in the label, as necessary, to ensure correct utilisation of food".

The Working Group identified several points of which the consumer should be informed, such as not to use certain products for frying and not to refill plastic bottles with hot oil and agreed that it was useful to include in all Standards for fats and oils provisions concerning instructions for use by reference to section 4.8 of the General Standards.

QUANTITATIVE LABELLING OF INGREDIENTS

20. The Working Group noted that the revised General Standard contained specific requirements for the quantitative declaration of ingredients under specified conditions, eg when special emphasis was placed on a valuable or characterising ingredient, or on the presence or absence of certain ingredients. (section 5.1). It was noted that this type of labelling was different from nutrition labelling.

21. The Working Group was of the opinion that the introduction of such a provision was useful to regulate the quantitative declaration of those specified ingredients in the case manufacturers wished to make claims for them on the label.

LABELLING OF IRRADIATED FOODS

22. The Working Group noted that the revised General Standard contained provisions for the labelling of first and second generation irradiated foods, requiring an appropriate declaration of the fact of irradiation on the label. It also noted that the relevant sections (section 5.2) remained under review by the CCFL.

23. The Working Group pointed out that irradiation of edible fats and oils was not in use and was not envisaged in the near future. Therefore, no specific provisions were needed concerning irradiated foods. The Working Group recommended to the Plenary not to introduce specific labelling provision for irradiated foods.

FURTHER ACTION

24. The Working Group decided that the Secretariat should prepare amended versions of the labelling provisions in the Codex Standards for fats and oils and in those Standards which were presently elaborated for consideration by the Plenary and submission to CCFL for endorsement.

DRAFT INTERNATIONAL CODE OF PRACTICE FOR STORAGE AND TRANSPORT OF EDIBLE OILS AND FATS IN BULK

(At Step 5*)

1. SECTION I - SCOPE

This Code of Practice applies to the handling of edible oils and fats in bulk. It contains the minimum requirements for storage and transport of edible oils and fats in bulk to ensure a wholesome supply of product to the consumers.

2. SECTION II - DEFINITIONS

Definitions are adequately covered in the text.

3. SECTION III - STORAGE INSTALLATIONS AND TRANSPORT

3.1 Tanks

3.1.1 Storage Tanks

The most suitable shape is the vertical circular cross-section tank with self-supporting fixed roof preferably convex in shape. Where possible, tall, narrow tanks are preferred to minimize exposed surface areas. Tank bottoms should be conical or sloped to be self-draining.

3.1.2 Capacity

For each installation, the storage capacity needs to be related to the expected storage period, the rate of turnover and the number of different products to be handled. The following sizes are suggested as a guide:

For refineries or end users, the capacities of storage tanks should be small and it is desirable to have a number of tanks ranging from 200-1,000 tonnes.

For export and import tank farms, suitable capacities for the various products are:

* Crude liquid oils, 1,000-5,000 tonnes.
* Crude non-liquid oils and refined oils, 500 - 2,000 tonnes.
* High melting fats such as palm stearin, tallow, hydrogenated oils. 5000 - 1,000 tonnes.

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*The CCFO recommended omission of Steps 6 and 7 and adoption of the Code by the Commission at Steps 5 and 8.

3.1.3 Ship's Tanks

Ship's tanks of mild steel should be coated with a suitable inert coating suitable for contact with food. It is preferable to construct a number of smaller tanks with capacities ranging from 200-1,000 tonnes. The economics of bulk transport require that ship's tanks should be versatile with respect to the cargoes that can be carried. Most mild steel tanks in modern ships are coated to prevent corrosion of the tank and contamination of the cargo. The trend towards the use of stainless steel for tank construction will remove the need for tank coatings. Damage to coatings can be caused by abrasion or by unsuitable cleaning methods leading to local corrosion. Tanks should always be inspected before use. When necessary, repair of coatings should be carried out.

3.1.4 Materials

a) Copper and its alloys such as brass, bronze or gun metal should not be used for any part of the storage installation and means of transport that has contact with the oils, such as piping, pipe connections, valves, heating coils, temperature guages for oil, strainers, pumps, etc. or in sampling apparatus. Gauges containing mercury should not be used. Glass equipment should be avoided in situations where breakage might lead to product contamination.

b) All other material used for the construction of tanks should be inert to oils and fats.

c) Mild steel is acceptable for edible oils but the tank wall, floor and roof should preferably be coated. A number of different coating products are available and specific assurance as to suitability for contact with foodstuffs should be obtained from the manufacturers. In particular, some coatings (eg zinc silicate) may be unsuitable for use. Before applying the coating, the surface must be sand or shot blasted to bright metal (Swedish Standard SA3). There is usually a temperature limitation to the coating which must be observed and live steam should not be used for cleaning. A proportion of shore tanks, rail cars and tanker lorries in use today are of mild steel and are acceptable to trade. Nevertheless fully refined oils show some pickup of iron during transport resulting in a proxidant action. As quality standards become more stringent, the use of a truly inert construction material or surface coating will become more important.

d) An interesting possibility for tanks in shore installations is to fit a stainless steel lining in a mild steel tank. A thin layer provides the benefits of stainless steel at a lower cost.

3.1.5 Heating Installation - Tanks

All tanks for solid or semi-solid products should be installed with heating facilities in order to obtain homogenous products when they are transferred or unloaded. Heating coils should be of stainless steel for coated and stainless steel tankage although mild steel coils may have to be used in uncoated mild steel tanks. Coils made from copper alloys (eg "Yorcalbro") are not suitable (see 3.1.4(a)).

Overheating should be avoided as oil deterioration will occur. For example, even a low steam pressure of 1.5 kg/cm² gauge gives a high coil surface temperature (about 127°C) when viewed from the point of view of chemical reactions of the oil. This assumes particular importance if the oil layer in contact with the coil is static, for example, as a result of a substantial amount of crystallized fat covering the coils. The value of "hairpin" or side heating coils is that they quickly provide a pathway for convection currents to promote mixing.

The following means of heating are suitable

a) Bare Hot Water Pipes

Heating by hot water (about 80°C) circulated through coils is the best procedure because it is least likely to cause local overheating

b) Bare Steam Pipes

Heating by steam with pressure up to 1.5kg/cm² gauge (temperature of 127°C). The heating coils should preferably be of stainless steel 5 cm (2") bare pipes and should rest on supporting legs about 7.5 cm (3") above the base of the tank. Some operators prefer supporting legs 15cm (6") to 30cm (12") high. Vertical hairpin coils or side heating coils installed on the tank walls also should be provided. Where no provision exists for mixing the oil, a maximum heating rate of 5°C/24 hr should be maintained to avoid local overheating at the coil surface. Where mixing is provided (see section (c) below) a higher heating rate is permissible. As a guide a coil area of about 0.1 m²/tonne of tank capacity is required if the fat has to be melted, but 0.05 m²/tonne suffices for heating-up purposes. For lagged tanks a smaller coil area is adequate. The total coil length is normally divided into two or more separate coils, of a length to avoid excessive accumulation of steam condensate.

c) Mixing

The provision of a mechanical agitator near the coil surface is claimed to speed up heating rates from about 5°C/24 hours to 25°C/24 hours or more and also reduce the risk of overheating. Any agitator or an oil recirculation system should avoid incorporating air into the oil during mixing. If there is dirt at the bottom, mixing may blend this into the whole consignment, which is undesirable. Mixing also reduces sampling problems.

3.1.6 Heating Installation - Road and Rail Tankers

For solid or semi-solid fats, tankers should be fitted with stainless steel or mild steel steam coils which can be coupled to a source of hot water or low pressure steam (steam pressure up to 1.5 kg/cm² gauge). In temperate and cold climates tankers should be insulated.

3.1.7 Tank Insulation

Storage tanks for solid and semi solid fats should preferably be insulated, particularly in temperate and cold climates. Insulation is usually fitted externally to the wall of the tank and must be designed to avoid the absorption of oil or water. Insulation has been proved of benefit even in tropical climates. Oil quality is preserved and energy is saved. Insulation will also minimise the risk of condensation forming on the internal surfaces of the tanks which may lead to corrosion and oil contamination.

3.1.8 Control of Temperature

All ships and storage tanks with heating installations should be equipped with temperature sensors and automatic control devices to prevent overheating of oil in the tank. Thermometers must be carefully sited and away from heating coils. It is useful to have automatic recording type thermometers to provide records of temperature control. The recorder should be installed in a conspicuous location such as supervisor's office or the ship's bridge.

3.1.9 Protection from Aeration

Pipeline connections should be designed so that admixture of air is avoided. Filling and emptying should be done from the bottom of the tank to avoid aeration.

One design incorporates an elbow joint in the inlet pipeline. The outlet end is then arranged to "float" on the tank contents and dips below the surface. A suggestion for loading ships' tanks could be to use a line to the bottom for about 3/4 of the filling operation and then to switch to a higher loading line.

3.1.10 Inert Gas Protection

Ships and storage tanks for high quality products or for long storage should preferably have facilities for sparging and blanketing with inert gas of appropriate purity.

3.2 Pipelines

For a ship loading, pipelines should reach the bottom of ship tanks; there should be a proper drain-out pipeline at the base of each tank so that it can be completely drained. In particular, separate pipelines and valves should be used for edible and non-edible products.

3.2.1 Materials

Mild steel is acceptable for all crude and semi-refined oils and fats; 316 stainless steel should be used for refined products.

3.2.2 Cleaning

A pipeline pigging system should be provided.

3.2.3 Flexible Hoses

All flexible hoses used to connect pipelines during loading and unloading must be inert material and be suitably reinforced.

3.2.4 Insulation and Heating

In temperate and cold climates pipelines should be lagged and also provided with heating, for example by steam tracing lines or electrical heating tape. Heating must be shut off when lines are empty.

4. SECTION VI - OPERATIONS

4.1 Loading and Unloading

4.1.1 Heating Up

Solid and semi-solid products in refinery storage tanks, shore tanks and ship tanks should be heated up slowly so that they are liquid and completely homogenous before transfer. Heating up should start at a time calculated to give the required pumping temperature without ever exeeding the maximum rate of 5°C/24 hr. If steam is used, the steam pressure should not exceed 1.5 kg/cm gauge to prevent localised over-heating.

4.1.2 Temperatures

The various oil products should be heated up to the temperature shown in Table 1 before transfer.

TABLE 1. UNLOADING TEMPERATURE

Products	Minimum °C	Maximum°C
Palm Oil (refined or crude)	50	55
Palm Stearin (refined or crude)	55-60a	65-70a
Palm Olein (refined or crude)	30	35
Palm Oil Mid Fraction	40	45
Palm Kernel and Coconut Oil	30	35
Palm Kernel Olein	30	35
Palm Kernel Stearin	40	45
Tallow	55	60
Fish Oil	25	30
Liquid Vegetable Oils (eg soya bean, rapeseed)	20	25
Hardened Oils	10 above slip point	15 above slip point

The lower temperatures apply to soft grades, while the higher temperatures are necessary for hard grades. The temperatures apply to both crude and processed oils in each grade.

Under cold weather conditions discharge temperatures should be higher than those given, to prevent blocking of pipelines. The provision of heating to pipelines (see 3.2.4) is however a preferable solution.

4.1.3 Temperatures During Storage and Transport

To prevent excessive crystallisation during short-term storage and shipping, oil in bulk tanks should be maintained within the temperature ranges given in Table 2.

TABLE 2. TEMPERATURE DURING STORAGE AND TRANSIT

Products	Minimum °C	Maximum °C
Palm Oil	32	40
Palm Olein	25	30
Palm Stearin	40	45
Palm Mid Fraction	35	40
Tallow	44	49
Fish Oil	20	25
Palm Kernel and Coconut Oil	27	32
Palm Kernel Olein	25	30
Palm Kernel Stearin	35	40
Liquid Vegetable Oils	15	20
Hardened Oils	ambient	5 above slip point.

The temperatures are chosen to minimise damage to the oil. Some crystallisation will occur, but not so much as to require excessively long heating before delivery. Thus palm oil stored at 32°C-40°C will require about three days heating at 5°C/day to bring it to discharge temperature. Long term storage of all oils should be at ambient temperature, and heating should be completely turned off.

4.1.4 Loading and Unloading Sequence

Oils from different lots should where possible be kept separate and pumping "fresh" oil into "old" oil in particular should be avoided for oxidative quality reasons.

Where a number of products are unloaded through a common pipeline system, the system must be cleared completely between different products or grades. The order of loading or discharge should be carefully chosen to minimise the consequence of contamination.

The following principles should be observed:

- Fully refined oils before partly refined.
- Partly refined oils before crude oils.
- Edible oils before technical grades
- Fatty acids or acid oils should be pumped last.
- Special care should be taken to prevent contamination between lauric acid and non-lauric oils.

4.1.5 If possible the first 3-5 tonnes of each grade should be collected in separate tanks for quality checks. This practice, though practised by many, is not considered practical by some.

4.1.6 When empty, tanks, pipelines and pumps should be drained and all heating turned off.

4.2 Cleaning

Pipelines and valves should be immediately cleared after each pumping and pigging systems are recommended. After cleaning and/or emptying, pipelines and tanks should be cleaned when no longer used for the same grade or product or if inspection shows the presence of residues. Where tanks have been used for non-edible materials, the greatest care must be taken by cleaning and inspection that all residues have been totally removed.

Land tanks and pipelines should be constructed to drain by gravity, and suitable drainage cocks, etc, should be provided. This is especially important where pipeline pigging facilities are not available. All common user pipelines and valves should be immediately cleared and cleaned after every pumping. If steam or water is used for cleaning, the system must be drained and completely dried before oil is handled. When not is use hoses and pipelines should be capped or blanked off to prevent contamination.

Ease of cleaning of mild steel tanks is greatly facilitated and costs of cleaning reduced by a suitable inert food-grade coating.

4.3 Maintenance

Regular maintenance checks should be made preferably as part of a properly planned maintenance programme. They should include functioning of steam pressure regulation valves; all steam supply valves and steam traps for leakage; thermometers, recording thermometers, weighing equipment and any gauge meters for function and accuracy; all oil pumps for leakage; condition of tank coatings; hoses (internal and external), and condition of tanks and ancillary equipment.

4.4 Others

4.4.1 There should be suitable marking or identification systems for the pipelines and storage tanks.

4.4.2 The condition such as cleanliness of storage tanks, road tankers, ships' tanks and pipelines should be inspected by suitably qualified personnel for every loading or unloading of oil and written reports provided.

4.4.3 All openings of tankers, storage tanks, etc, such as manholes, inlets, outlets, draining out points, etc, should be made such that they can be locked and/or effectively sealed.

4.4.4 Before heat up of oil, the heating coils should be covered completely.

4.4.5 Temperature of loading or unloading should refer to the average of top, middle and bottom temperature readings. Bottom readings should be taken 12" away from the heating coils.

4.4.6 Where doubts exist about cleanliness of pipes and manifolds before discharge of oil from ship tank to shore tank, then if possible draw first runnings (3-10 tonnes) from the delivey line into a separate container for inspection. Tank sediments also should be kept separate from the bulk. Doubts about cleanliness should be resolved by an additional inspection and cleaning procedure although the practical problem remains that the inside of pipelines often cannot be directly inspected. The most positive method for cleaning is undoubtedly a pigging system. Next best is to clean with hot water or steam as available and to ensure complete drainage.

4.4.7 Records of the ship's heating log should be provided to the buyer.

4.4.8 Ship loading samples properly marked and sealed should be delivered to the buyer.

4.4.9 The three previous cargoes carried in a ship's tank should be declared to the charterer of the tank and the records made available to all parties involved. The provision should be part of all shipping contracts.

Even very small residues of some highly reactive cargoes may cause considerable damage to edible oils and may render the oil unfit for edible purposes.

5. SECTION V - SOME NOTES

5.1 General

Three types of deterioration can occur in oils and fats during the operations dealt with here. The susceptibility of an oil to deterioration depends on several factors including whether it is crude or refined or whethe there are impurities present and these should be considered when transporting the oil.

5.1.1 Oxidation

Oxidation of oils results in chemical changes leading to rancidity. While the oil refinery can put right some of the effects of oxidation, processing of oxidised oils is more expensive, and rectification may be incomplete.

Oxidation requires the presence of oxygen which is a universal component of the atmosphere. While it would be possible to protect oils totally from contact with air, it would be uneconomical. Much can be gained by reducing contact and this principle is the basis of several of the recommendations. Oxidation proceeds more rapidly at high temperatures. Thus each operation should be carried out at the lowest practicable temperature. Oxidation is speeded up by contact with copper or copper containing alloys, and these must be excluded from the systems. Other metals such as iron also have a catalytic effect though it is less than that of copper. There is therefore an advantage in providing storage tanks with an inert coating, and ensuring the absence of rust.

5.1.2 Hydrolysis

The breakdown of fats to fatty acids is promoted by the presence of water and higher temperatures. Hydrolysis is also promoted by the growth of microorganisms in the presence of water. Tanks should always be clean and dry before use. Free fatty acids also promote hydrolysis, and therefore crude oils in particular will increase in acidity during transport.

5.1.3 Contamination

Contamination may be from residues of a previous material handled in the equipment, from dirt, rain or sea water, or through the accidental addition of a different product. In storage installations and ships, particular difficulty may be experienced ensuring cleanliness of valves and pipelines, particularly where they are common for different tanks. Contamination is avoided by good plant design, adequate cleaning routines and an effective inspection service.

SECTION VI - USE OF THE CODE

6.1 The document is advisory in nature. Its value rests on the fact that in general all the practices proposed are in actual and successful use.

6.2 This Code is applicable to all oils and fats.

6.3 It is hoped that newcomers to the field will use as far as possible the principles given in the design of their facility.

6.4 It is recognised that existing installations may not conform in some respects to the Code. It is hoped that over a period of time as repairs, maintenance, enlargements are required, they can be gradually brought into line.

6.5 A large degree of consensus on facilities and operations has been obtained. It is clear, however, that there are widely varying practical situations where management has to depart from normal and favour alternative designs or procedures.

REVISION OF CODEX STANDARD FOR OLIVE OIL, VIRGIN AND REFINED, AND FOR REFINED OLIVE-POMACE OIL (CODEX STAN 33-1981)

(At Step 5) *

1. SCOPE

This standard applies to virgin olive oil, refined olive oil, refined olive-pomace oil, blends of refined olive oil and virgin olive oil and blends of refined olive-pomace oil and virgin olive oil.

2. DESCRIPTION

2.1 Olive oil is the oil obtained from the fruit of the olive tree (Olea europaea sativa Hoffm. et Link) without having been subjected to manipulation or any treatment not authorized by sub-sections 2.2 and 2.3 of this standard.

2.2 Virgin olive oil is the oil obtained from the fruit of the olive tree by mechanical or other physical means under conditions, particularly thermal, which do not lead to alteration of the oil. Virgin olive oil is an oil which is suitable for consumption in the natural state.

2.3 Refined olive oil is the oil obtained from virgin olive oil, the acid content and/or organoleptic characteristics of which render it unsuitable for consumption in the natural state, by means of refining methods which do not lead to alterations in the initial glyceridic structure.

2.4 Refined olive-pomace oil is the oil obtained from "olive pomace" by extraction by means of solvents and made edible by means of refining methods which do not lead to alteration in the initial glyceridic structure.

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* The CCFO recommended omission of Steps 6 and 7 and adoption of the Draft Revision of Codex Standard for Olive Oil, Virgin and Refined and for Refined Olive-Pomace Oil by the Commission at Steps 5 and 8.

3. ESSENTIAL COMPOSTION AND QUALITY FACTORS 1/

3.1 Identity characteristics (under normal ecological conditions) (% m/m of methyl esters)

Lauric acid	(C 12:0)	Not present in descernible amounts
Myristic acid	(C 14:0)	< 0.1
Palmitic acid	(C 16:0)	7.5 - 20.0
Palmitoleic acid	(C 16:1)	0.3 - 3.5
Heptadecanoic acid	(C 17:0)	< 0.5
Heptadecenoic acid	(C 17:1)	< 0.6
Stearic acid	(C 18:0)	0.5 - 5.0
Oleic acid	(C 18:1)	55.0 - 83.0
Linoleic acid	(C 18:2)	3.5 - 21.0
Linolenic acid	(C 18:3)	< 1.5
Arachidic acid	(C 20:0)	< 0.8
Behenic acid	(C 22:0)	< 0.2
Erucic acid	(C 22:1)	Not present in discernible amounts
Lignoceric acid	(C 24:0)	< 1.0

1/ The limits of essential compositon and quality factors of virgin olive oils show very widely spaced minimum and maximum values, since they take account of the oil characteristics of all producing countries. Characteristics and limits of physical and chemical indices and values, and of fatty acid compositon for the various grades of virgin olive oils produced in each olive-growing area, determined at the outset and close of the olive oil production year, are published yearly in each producing country's "National Olive Oil Index File".

3.1.2.12 Sterol content (% of the sum of beta-sitosterol, campesterol and stigmasterol) 1/

	Beta-sitosterol	Campesterol	Cholesterol
Virgin olive oil	≥ 93	≤ 4.0	≤ 0.5
Refined olive oil			
Refined olive-pomace oil			

3.1.2.13 Saturated Fatty Acids at Position 2

	Maximum level
Virgin olive oil	1.5% m/m
Refined olive oil	1.8% m/m
Blends of refined olive oil and virgin olive oil	1.8% m/m
Refined olive-pomace oil	2.2% m/m
Blends of refined olive-pomace oil and virgin olive oil	2.0% m/m

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.

3.2 Quality Characteristics

3.2.1 Colour, Odour and Taste

Virgin olive oil: Clear oil, of a yellow to green colour, with specific odour and taste, free from odours or tastes indicating alteration or pollution of the oil.

Refined olive oil: Clear oil, limpid without sediment, of clear yellow colour, without specific odour or taste and free from odours or tastes indicating alteration or pollution of the oil.

Refined olive-pomace oil: Clear oil, limpid, without sediment, of a yellow to yellow-brown colour, without specific odour or taste and free from odours or tastes indicating alteration or pollution of the oil.

Blends: The colour, odour and taste shall be intermediate between those of the two types blended.

1/ Beta-sitosterol as determined by the method of analysis specified by the Standard includes Δ-5 avenasterol since this is not separated from beta-sitosterol by the column packing material SE30.

3.2.2 Free Acidity

	Acidity maximum % m/m expressed as oleic acid	Acid Value maximum mg KOH/g oil
Virgin olive oil	3.3	6.6
Refined olive oil	0.3	0.6
Refined olive-pomace oil	0.3	0.6
Blends	1.5	3.0

3.2.3 Peroxide Value (in milliequivalents peroxide oxygen/kg oil)

Virgin olive oil	$\leqslant 20$
Refined olive oil	$\leqslant 10$
Refined olive-pomace oil	$\leqslant 10$
Blends	$\leqslant 20$

3.2.4 Specific Extinction in Ultra-violet ($E^{1\%}_{1cm}$)

	$E^{1\%}_{1cm}$ maximum at 232 nm	$E^{1\%}_{1cm}$ maximum at 270 nm	$\Delta E^{1\%}_{1cm}$ maximum variation at near 270 nm
Virgin olive oil	3.50	0.30	1/
Refined olive oil	-	1.10	0.16
Refined olive-pomace oil	6.00	2.00	0.20
Blends of refined olive oil and virgin olive oil	-	0.90	0.15
Blends of refined olive-pomace oil and virgin olive oil	5.50	1.70	0.18

1/ Oils having a specific extinction at 270 nm exceeding 0.30 may still be regarded as virgin oils if, after passage of the sample through activated alumina, their specific extinction at 270 nm is less than 0.11 (see sub-section 8.17.6).

3.1.2.6 Bellier Index

Virgin olive oil	not more than 17 1/
Refined olive oil	
Refined olive-pomace oil	not applicable

3.1.2.7 Semi-siccative Oil Test

Virgin olive oil	negative
Refined olive oil	
Refined olive-pomace oil	

3.1.2.8 Olive-Pomace Oil Test

Virgin olive oil	negative
Refined olive oil	
Refined olive-pomace oil	not relevant

3.1.2.9 Cottonseed Oil Test

Virgin olive oil	negative
Refined olive oil	
Refined olive-pomace oil	

3.1.2.10 Teaseed Oil Test

Virgin olive oil	negative
Refined olive oil	
Refined olive-pomace oil	

3.1.2.11 Sesameseed Oil Tests

Virgin olive oil	negative
Refined olive oil	
Refined olive-pomace oil	

1/ Should this index be higher than 17, the content of arachidic, behenic and lignoceric acid shall be given.

3.1.2 Physical and Chemical Indices

3.1.2.1 Relative Density (20°C/water at 20°C)

Virgin olive oil	0.910 - 0.916
Refined olive oil	
Refined olive-pomace oil	

3.1.2.2 Refractive Index ($n_D^{20^\circ C}$)

Virgin olive oil	1.4677 - 1.4705
Refined olive oil	
Refined olive-pomace oil	1.4680 - 1.4707

3.1.2.3 Saponification Value (mg KOH/g oil)

Virgin olive oil	184 - 196
Refined olive oil	
Refined olive-pomace oil	182 - 193

3.1.2.4 Iodine Value (Wijs)

Virgin olive oil	75 - 94
Refined olive oil	
Refined olive-pomace oil	75 - 92

3.1.2.5 Unsaponifiable Matter (using light petroleum)

Virgin olive oil	not more than 15 g/kg 1/
Refined olive oil	
Refined olive-pomace oil	not more than 30 g/kg 2/

1/ A characteristic feature of the unsaponifiable matter in <u>olive oil</u> is its content of squalene, which is higher than that of the other vegetable oils. Another distinctive feature is that its sterols are composed of practically pure beta-sitosterol.

2/ The unsaponifiable matter of <u>olive-pomace oil</u> contains more alcoholic compounds than that of virgin or refined olive oils, and its iodine value is therefore lower than that normally noted in virgin or refined olive oils, and its melting point is higher.

4. FOOD ADDITIVES

			Maximum level
4.1	Virgin olive oil	none permitted	
4.2	Refined olive oil Refined olive-pomace oil Blends	<u>alpha-tocopherol</u>, for the purpose of restoring natural tocopherol lost in processing	200 mg/kg total alpha-tocopherol in the final product

5. CONTAMINANTS

5.1 <u>Matter Volatile at 105°C</u>

Virgin olive oil	⩽ 0.2% m/m
Refined olive oil	⩽ 0.1% m/m
Refined olive-pomace oil	⩽ 0.1% m/m
Blends	⩽ 0.1% m/m

5.2 <u>Insoluble Impurities</u>

Virgin olive oil	⩽ 0.1% m/m
Refined olive oil	⩽ 0.05% m/m
Refined olive-pomace oil	⩽ 0.05% m/m
Blends	⩽ 0.05% m/m

5.3 <u>Soap Test</u>

Refined olive oil Refined olive-pomace oil	negative
Virgin olive oil Blends	not applicable

6. HYGIENE

It is recommended that the product covered by the provisions of this Standard be prepared in accordance with the appropriate Sections of the General Principles of Food Hygiene recommended by the Codex Alimentarius Commission (Ref. No. CAC/RCP 1-1969, Rev. 1).

7. LABELLING (To be endorsed by CCFL)

See APPENDIX XII

8. METHODS OF ANALYSIS AND SAMPLING [1]

8.1 Determination of Fatty Acid Composition (Type II)

According to the IUPAC method (1979, 6th edition) no. 2.302 "Gas-Liquid Chromatography of Fatty Acid Methyl Esters" or to the alternative ISO method - 5508.

Results are expressed as % m/m of methyl esters.

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[1] Secretariat Note: The full details of the analytical procedures given in Sections 8.7-8.12, 8.17 and 8.21 will be transferred to Part V of the Codex Alimentarius Volume XI after adoption by the Commission.

8.2 Determination of Relative Density (Type II)

According to the method CAC/RM 9-1969 "Determination of Relative Density at t/20°C".

Results are expressed as relative density at 20°C/water at 20°C.

8.3 Determination of Refractive Index (Type II)

According to the IUPAC method (1979, 6th edition) no. 2.102 "Determination of the Refractive Index".

Results are expressed as the refractive index relative to the sodium D-line at 20°C.

8.4 Determination of Saponification Value (Type I)

According to the IUPAC method (1979, 6th edition) no. 2.202 "Determination of the Saponification Value (S.V.)", sections 1-4 and 6, or to the alternative ISO method 3657.

Results are expressed as the number of mg KOH/g oil.

8.5 Determination of Iodine value (Type I)

According to the IUPAC method (1979, 6th edition) no. 2.205 "Determination of the Iodine Value (I.V.)", Wijs method, or to the alternative ISO method 3961.

Results are expressed as % m/m absorbed iodine.

8.6 Determination of Unsaponifiable Matter (Type I)

According to the IUPAC method (1966, 5th edition), II.D.5.1 and II.D.5.2: "Determination of the Unsaponifiable Matter - Light petroleum method".

Results are expressed as g unsaponifiable matter/kg oil.

8.7 Determination of Bellier Index CAC/RM 20-1970 (Type I)

8.7.1 Definition

The Bellier index of an oil is the temperature at which precipitation of salts of the fatty acids of this oil commences, when the oil has been saponified and made into solution as described under 8.7.5 Procedure.

8.7.2 Reagents

The reagents used shall be of recognized analytical reagent quality.

8.7.2.1 Aqueous ethanolic potassium hydroxide solution

42.5 g of pure KOH is dissolved in 72 ml of distilled water and adjusted to 500 ml with 95% v/v ethanol.

8.7.2.2 70% v/v ethanol solution (use pure ethanol or rectified spirit).

8.7.2.3 Aqueous acetic acid solution 1+2 (by volume) so adjusted that 1.5 ml exactly neutralizes (phenolphthalein indicator) 5 ml of the aqueous ethanolic potassium hydroxide solution (8.7.2.1).

8.7.3 Apparatus

8.7.3.1 220 mm x 26-27 mm test tubes

8.7.3.2 Condenser consisting of a glass tube with stopper

8.7.3.3 Thermometer graduated in 1/4° from 8 to 25°C, fixed in a stopper.

8.7.4 Preparation of Sample

To remove water, the oil is decanted and filtered through paper at a temperature slightly above the melting point of certain solid constituents which could separate from the fluid fatty matter.

8.7.5 Procedure

Place 1 ml of oil and 5 ml of the aqueous ethanolic KOH solution into a test tube. Connect to condenser and heat moderately, agitating by rotation from time to time until saponification is complete, i.e. until a perfectly clear solution is obtained. Allow to cool, disconnect condenser and add 1.5 ml of the aqueous acetic acid solution and 50 ml of the ethanol solution. Attach thermometer and homogenize. Place test tube in a beaker of water at 23-25°C. If a flocculent precipitate forms, leave standing for an hour at the same temperature and filter into a test tube. Attach thermometer to the test tube containing the clear solution. Place for a moment in a beaker of water at about 10°C less than the estimated Bellier index. Withdraw and ensure even temperature by inverting a number of times (cooling should be at the rate of about 1°C per minute). Repeat this operation until cloudiness appears. Note temperature. Allow the temperature to increase a few degrees to dissolve the precipitate. Homogenize by inverting test tube over and cool. The cooling should be slow and shaking more frequent as the temperature approaches that noted the first time.

8.7.6 Expression of Results

The Bellier index is the temperature °C at which the cloudiness reappears.

8.7.7 Repeatability

Two parallel determinations may not differ by more than 0.25°C.

8.8 <u>Semi-siccative Oils Test</u> CAC/RM 21-1970 (Type I)

8.8.1 Principle of Method

Based on the reaction between semi-siccative (unsaturated) oils and bromine yielding substances which form an insoluble precipitate at 0°C.

8.8.2 Reagents

The reagents shall be of recognized analytical reagent quality.

8.8.2.1 Hexane, or, if not available, light petroleum with distillation point between 40° and 60°C and bromine value less than 1, free of residues.

8.8.2.2 Bromine reagent obtained by adding drop by drop while shaking 4 ml of chemically pure bromine (the presence of chlorine prevents the reaction) into 100 ml of hexane or light petroleum, chilled to 0°C and kept in the melting ice bath until required.

8.8.3 Apparatus

8.8.3.1 Stoppered 50-ml Erlenmeyer flask.

8.8.3.2 Bath of melting ice.

8.8.4 Procedure

The oil to be tested is filtered and dried. Place 1 ml of the oil in the previously dried Erlenmeyer flask and dissolve in 10 ml of hexane. Place the stoppered Erlenmeyer flask in the melting ice bath. After 5 min add 10 ml of bromine reagent in small quantities at a time, while shaking and maintaining the temperature at 0°C. The colour of the solution must clearly indicate excess bromine. Leave the Erlenmeyer flask in the melting ice bath for one hour, after which note appearance of solution. If semi-siccative oil is present, a flocculent precipitate will form, varying in quantity according to the percentage of adulteration and the nature of the adulterating oil. The solution remains clear and transparent in the case of genuine olive oils.

8.8.5 Expression of Results

The result is expressed as positive or negative.

8.9 Olive-pomace Oil Test: CAC/RM 22-1970 (Type I)

8.9.1 Principle of Method

Based on the temperature of precipitation of salts of the fatty acids after saponification.

8.9.2 Reagents

The reagents used shall be of recognized analytical reagent quality.

8.9.2.1 Aqueous ethanolic potassium hydroxide solution. 42.5 g of pure KOH is dissolved in 72 ml of distilled water and adjusted to 500 ml with 95% v/v ethanol.

8.9.2.2 70% v/v ethanol solution (use pure ethanol or rectified spirit).

8.9.2.3 Aqueous acetic acid solution 1+2 (by volume) so adjusted that 1.5 ml exactly neutralizes (phenolphthalein indicator) 5 ml of the aqueous ethanolic potassium hydroxide solution (8.9.2.1).

8.9.3 Apparatus

8.9.3.1 100 ml balloon-flask equipped with reflux condenser.

8.9.3.2 50 ml test tubes.

8.9.3.3 Heating arrangement to keep balloon-flask at about 80°C.

8.9.3.4 Thermometer graduated from 15° to 60°C.

8.9.4 Preparation of Sample

To remove water, the oil is decanted and filtered through paper at a temperature slightly above the melting point of certain solid constituents which could separate from the fluid fatty matter.

8.9.5 Procedure

Place about 1 g of the oil, prepared as above, into the balloon-flask. Add 5 ml of aqueous ethanol potassium hydroxide solution. Attach condenser and bring to boil holding at this temperature for 10 minutes, shaking from time to time. Allow to cool at ambient temperature. Add 1.5 ml of acetic acid solution and 50 ml of ethanol solution previously heated to 50°C. Mix by shaking, introduce thermometer and allow to cool, noting the appearance of the solution once 45°C is reached. If a flocculent precipitate forms at a temperature above 40°C, the test is positive. Allow to cool to ambient temperature (not lower than 18°C) over at least 12 hours. Observe solution again; the formation of a flocculent precipitate, floating in the middle of the liquid also indicates that the test is positive. A cloudiness not forming into flakes does not indicate the presence of olive-pomace oil.

8.9.6 Expression of Results

The result is expressed as positive or negative.

8.9.6.1 NOTE: On rare occasions some virgin olive oils, obtained by second pressing, yield a positive result.

8.10 <u>Cottonseed Oil Test</u> CAC/RM 23-1970 (Type I)

8.10.1 Principle of Method

Based on red colour developed by cyclo-propenoic acids under the operating conditions in the presence of sulphur.

8.10.2 Reagents

The reagents used shall be of recognized analytical quality.

8.10.2.1 Sulphur reagent: Mix equal volumes of amyl alcohol and a solution of 1 g of sulphur in 100 ml of carbon disulphide

8.10.3 Apparatus

8.10.3.1 250 mm x 25 mm test tubes.

8.10.3.2 Water bath with constant temperature control.

8.10.3.3 Heating apparatus to keep the test tubes at 110°-120°C.

8.10.4 Procedure

Place approximately 10 ml of the oil under examination into a test tube, add the same volume of sulphur reagent; shake and keep in water bath at 70° - 80°C, shaking until the carbon disulphide has completely evaporated (generally 5 mins are enough), which is confirmed by the appearance of slight fuming above the liquid. Transfer the test tube to the heating apparatus and keep at 110° - 120°C for 2 hours. A red, or pink colour indicates the presence of cottonseed oil. However, the appearance of an orange colour must not be interpreted as being proof of the presence of cottonseed oil.

8.10.5 Expression of Results

The result is expressed as positive or negative.

8.10.5.1 NOTE: The heating of the cottonseed oil to temperature above 170° brings about a progressive destruction of the cyclo-propenoic acids responsible for the coloration. This destruction is practically complete at 200°C.

8.11 Teaseed Oil Test CAC/RM 24-1970 (Type I)

8.11.1 Principle of Method

Based on Fitelson (modified Lieberman-Burchard) test, i.e. red colour developed by acetic anhydride in the presence of sulphuric acid in chloroform solution of the oil.

8.11.2 Reagents

The reagents used shall be of recognized analytical quality.

8.11.2.1 Chloroform

8.11.2.2 Concentrated sulphuric acid (d = 1.84)

8.11.2.3 Acetic anhydride

8.11.2.4 Diethyl oxide

8.11.3 Apparatus

8.11.3.1 150 mm x 15 mm test tubes

8.11.3.2 2 ml pipette, graduated in tenths

8.11.3.3 Dropper so calibrated that 7 drops of oil weigh approximately 0.22 g.

8.11.3.4 Water bath at 5°C.

8.11.4 Procedure

Using the graduated pipette, place 0.8 ml of acetic anhydride, 1.5 ml of chloroform and 0.2 ml of sulphuric acid in a test tube. Cool to 5°C, then add approximately 0.22 g of oil. If cloudiness appears, add acetic anhydride drop by drop with shaking until the solution becomes clear. Keep at 5°C for 5 minutes. Add 10 ml of diethyl oxide previously cooled to 5°C. Stopper the test tube and mix immediately by inverting it twice. Return the test tube to the bath at 5°C and observe the colour. After about one minute a red colour will appear if tea oil is present.

8.11.5 Expression of Results

The result is expressed as positive or negative.

8.11.5.1 NOTE: A pink colour shall be regarded as negative, since some olive oils yield this colour.

8.12 Sesameseed Oil Tests CAC/RM 25-1970 (Type I)

8.12.1 Principle of Method

Based on the detection of sesamoline, a glycoside, and sesamine, a complex cyclic ether, which are present in small amounts in sesameseed oil.

8.12.2 Detection of Sesamoline

8.12.2.1 Reagents

The reagents used shall be of recognized analytical quality.

8.12.2.1.1 Concentrated hydrochloric acid (d = 1.18)

8.12.2.1.2 Solution of 2% v/v freshly distilled furfural in 95% v/v ethanol

8.12.2.2 Apparatus

8.12.2.2.1 Graduated 50-ml stoppered test tube

8.12.2.3 Procedure

Place 10 ml of the oil and 10 ml of conc. hydrochloric acid in the graduated test tube. Stopper and shake vigorously for 30 seconds. Allow to stand. Add 0.5 ml of the solution of furfural. Stopper and shake again. Allow to stand until decantation. If the lower layer does not turn red, the test is negative. If a red coloration appears, add 10 ml of water and shake gently and allow the liquid to settle. If the coloration disappears, the test is negative. If the coloration remains, the test is positive. Refined sesame oils do not always give a positive reaction by this method.

8.12.2.4 Expression of Results

The result is expressed as positive or negative.

8.12.3 Detection of Sesamine

8.12.3.1 Reagents

The reagents used shall be of recognized analytical quality.

8.12.3.1.1 Concentrated sulphuric acid ($\underline{d}$ = 1.84).

8.12.3.1.2 Solution of freshly distilled furfural in acetic anhydride, 0.35/ml v/v.

8.12.3.2 Apparatus

8.12.3.2.1 25-ml, stoppered graduated test tube.

8.12.3.2.2 Decanting beaker approximately 50-ml.

8.12.3.2.3 Flat-bottomed porcelain dish approximately 60 mm in diameter.

8.12.3.3 Procedure

Place 10-ml of the oil and 5 ml of the solution of furfural in the test tube. Stopper and shake vigorously for approximately one minute. Pour the mixture into the decanting beaker and allow to settle. Transfer a portion of the deposit into the dish and add 6 or 7 drops of sulphuric acid. Mix by shaking the dish gently.

The test is positive if a greenish-blue colour appears. Seasame oils, even when refined, give a positive reaction.

8.12.3.4 Expression of Results

The result is expressed as positive or negative.

8.13 Determination of the sterol content (Type II)

According to the IUPAC method (1979, 6th edition), no. 2.403 "Identification and Determination of Sterols by Gas-Liquid Chromatography" solely using SE 30 packing material.

Results expressed as % of the sum of beta-sitosterol, campesterol and stigmasterol.

8.14 Determination of the fatty acids in the 2 position (Type II)

According to the IUPAC method (1979, 6th edition) no. 2.210 "Determination of the Fatty Acids in the 2-position in the Triglycerides of Oils and Fats".

Results expressed as % (m/m) of the total fatty acids at position 2.

8.15 Determination of Free Acidity (Type I)

According to the IUPAC method (1979, 6th edition), no. 2.201 "Determination of the Acid Value (A.V) and the Acidity".

Results are expressed as % m/m oleic acid and/or as the number of mg KOH required to neutralize 1 g oil.

8.16 Determination of Peroxide Value (Type I)

According to the IUPAC method (1979, 6th edition) no. 2.501 "Determination of the Peroxide Value (P.V.)" or to the alternative ISO method 3960.

Results expressed as milliequivalents active oxygen/kg.

8.17 Determination of Specific Extinction in Ultra-Violet ($E_{1cm}^{1\%}$) CAC/RM 26- 1970 (Type I)

8.17.1 Principle of Method

The degree of oxidation of olive oil is reflected by its specific extinctions at 232 and 270 nm. In fact, virgin olive oil, of good quality and correctly stored, contains very few products of oxidation; these, mainly of peroxide nature, have a maximum absorption at approximately 232 nm. The values of: $E^{1\%}_{1cm}$, at 232 and 270 nm, in such olive oils are below the maximum provided for in the standard. On the other hand, when the oil is treated with decolorizing agent (absorbant earth) during the refining process, conjugated trienoic compounds are formed. Those compounds have a maximum absorption situated at approximately 270 nm; this means that refined oils have higher values of $E^{1\%}_{1cm}$ at 270 nm.

NOTE: Measurement of specific extinction in ultra-violet is essentially a measurement of the state of alteration of the oil. It is not specifically a measurement of the refining. In some particular cases, abnormally altered virgin oils can show spectral characteristics close to those of refined oils.

8.17.2 Reagents

8.17.2.1 Spectrophotometrically pure cyclohexane: Minimum transmittance at 220 nm: 40% and minimum transmittance at 250 nm: 95% by comparison with distilled water.

8.17.2.2 Basic alumina of known grade

Basic alumina of Brockmann grade I (0% H_2O) is obtained by heating for 3 hours at 380-400°C basic alumina (chromatographic quality) of particle size 30 µ to 130 µ (mean 80 µ). To 100 g of this product add 5 ml of distilled water to produce basic alumina of Brockmann grade close to IV.

NOTE: Method used to check the activity index of the alumina.

Place 30 g of the basic alumina (as obtained above) in a chromatographic column, 450 mm long and 35 mm diameter; through this column, pass, under the conditions laid down in the method, a mixture of 95% virgin olive oil, having a specific extinction coefficient below 0.18 at 270 nm, and of 5% arachis oil previously treated, during the refining process, with decolorizing agent (absorbent earth) and having a specific extinction coefficient equal to or above 4 at 270 nm. If this mixture shows a specific extinction coefficient greater than 0.11, the activity of the alumina is acceptable. Should the elution of conjugated trienes not have taken place using this alumina, an alumina at a higher level of hydration should be used after verifying that it agrees with the preceding test.

8.17.3 Apparatus

8.17.3.1 Ultra-violet spectrophotometer for measurements between 210 and 300 nm.

8.17.3.2 Quartz cells of 1 cm thickness.

8.17.3.3 50-ml and 500-ml volumetric flasks.

8.17.3.4 Chromatographic column, 450 mm long and 35 mm diameter.

8.17.3.5 **Adjustment of Spectrophotometer:** Dissolve 0.2 g of dry potassium chromate in exactly 1 litre of a 0.05 N solution of potassium hydroxide. Place 25 ml exactly measured, of this solution in a 500-ml flask and bring up to 500 ml mark with the 0.05 N solution of potassium hydroxide. Determine the optical density of this latter solution by comparison with the 0.05 N solution of potassium hydroxide as a reference solution, in a 1 cm cell. This, at 275 nm should be 0.200 ± 0.005.

8.17.4 Procedure

If the oil is not completely clear at ambient temperature, filter before attempting measurements. Place approximately 0.5 g, weighed accurately, of the oil in the 50-ml flask. Add the cyclohexane up to the mark and shake. Fill a cell with this solution and measure the optical density using the cyclohexane as reference solution. Make determinations at 232 and 270 nm. Determine, in the region of 270 nm, the wavelength of maximum absorption λ_m and determine the optical density at λ_m nm, $\lambda_m - 4$ nm and $\lambda_m + 4$ nm.

8.17.5 Calculation and Expression of Results

8.17.5.1 Calculation of Specific Extinction at 232 and 270 nm.

$$E^{1\%}_{1cm}\lambda = \frac{A\lambda}{c\ l}$$

where

$E^{1\%}_{1cm}\lambda$ = specific extinction at wavelength λ nm

$A\lambda$ = optical density at wavelength λ nm

$\underline{c}$ = concentration of the test solution in g/100 ml

$\underline{1}$ = thickness of the cell in cm

NOTE: If the optical density read is less than 0.2, re-measure with a more concentrated solution. If it is more than 0.8, re-measure with a weaker solution.

8.17.5.2 Calculation of the variation of the specific extinction at the wavelength of maximum absorption near 270 nm.

$$\Delta E^{1\%}_{1\mathrm{cm}} = E\lambda_{\underline{m}} - \frac{(E\lambda_{\underline{m}} - 4) + (E\lambda_{\underline{m}} + 4)}{2}$$

where

$\Delta E^{1\%}_{1\mathrm{cm}}$ = variation of specific extinction at $\lambda_{\underline{m}}$

$E\lambda_{\underline{m}}$ = specific extinction at the wavelength of maximum absorption near 270 nm

$E\lambda_{\underline{m} - 4}$ and $E\lambda_{\underline{m} + 4}$ = specific extinctions at wavelengths of $\lambda_{\underline{m}}$ plus or minus 4 nm

8.17.6 Additional procedure for determination of the specific extinction after passage through alumina

Place 30 g of basic alumina as described in 8.17.2.2 in a chromatography column approximately 450 mm long and 35 mm in diameter, furnished with a draining tube of about 10 mm diameter. Pack the alumina mechanically by repeatedly tapping the column, held vertically, on a wooden surface. Place in the column thus prepared 100 ml of a solution of 10% oil in hexane. Collect the drainings and evaporate the solvent in a vacuum at less than 25°C. Using the oil so obtained, immediately determine the specific extinction at 270 nm, as previously described.

8.18 Determination of Alpha-Tocopherol (Type II)

According to the IUPAC method (6th edition, 1st supplement, Part 4, 1981) no. 2.404 "Identification and determination of tocopherols", method A.

Results are expressed as mg tocopherol/kg oil.

8.19 Determination of Matter Volatile at 105°C (Type I)

According to the IUPAC method (1979, 6th edition) no. 2.601 "Determination of the Moisture and Volatile Matter" or to the alternative ISO method 662.

Results are expressed % m/m.

8.20 Determination of Insoluble Impurities (Type I)

According to the IUPAC method (1979, 6th edition) no. 2.604 "Determination of the Insoluble Impurities", using light petroleum as a solvent.

Results are expressed as % m/m.

8.21 Soap Test CAC/RM 27-1970 (Type I)

8.21.1 Principle of Method.

Detection of alkalinity using bromophenol blue as indicator.

8.21.2 Reagents

8.21.2.1 Solution of 0.1% of bromophenol blue in 96% v/v ethanol.

8.21.2.2 Freshly distilled acetone, 2% v/v water content.

A few drops of the solution of bromophenol blue should give a yellow to yellow-green colour to the acetone with 2% water.

8.21.3 Apparatus

8.21.3.1 150 mm x 15 mm test tube.

8.21.4 Procedure

Place 10 ml of the acetone and 1 drop of the bromophenol blue solution in a test tube. The solution should have a yellow colour. If not, rinse the teat tube with acetone until the blue colour disappears. Place 10 g of the oil in the test tube, stopper with a clean stopper, shake and allow to settle. The presence of blue colour in the upper acetonic layer indicates the presence of soap.

8.21.5 Expression of Results

The result is expressed as positive or negative.

ANNEX

EXTRACT FROM THE
INTERNATIONAL AGREEMENT ON OLIVE OIL
AND TABLE OLIVES, 1986

Article 26

Designations and definitions of olive oils and olive-pomace oils

1. The designations of olive oils and olive-pomace oils of the different qualities are given below with the definition corresponding to each designation:

A. Virgin olive oil: oil which is obtained from the fruit of the olive tree solely by mechanical or other physical means under conditions, and particularly thermal conditions, that do not lead to deterioration of the oil, and which has not undergone any treatment other than washing, decantation, centrifugation and filtration, to the exclusion of oil obtained by solvent or re-esterification processes and of any mixture with oils of other kinds. Virgin olive oil shall be classified and designated as follows:

a) Virgin olive oil fit for consumption as it is: [1]

i) Extra virgin olive oil: virgin olive oil of absolutely perfect flavour having a maximum acidity, in terms of oleic acid, of 1 gram per 100 grams;

ii) Fine virgin olive oil: virgin olive oil complying with the conditions for extra virgin olive oil, except as regards acidity, which in terms of oleic acid shall not exceed 1.5 grams per 100 grams;

iii) Semi-fine virgin olive oil (or Ordinary virgin olive oil): virgin olive oil of good flavour having a maximum acidity, in terms of oleic acid, of 3 grams per 100 grams with a margin of tolerance of 10 per cent of the acidity indicated.

1/ It shall be permissible to use the qualifier "natural" for all virgin olive oils fit for consumption as they are.

b) Virgin olive oil not fit for consumption as it is:

Virgin olive oil lampante: off-flavour virgin olive oil or virgin olive oil having an acidity, in terms of oleic acid, of more than 3.3 grams per 100 grams.

B. Refined olive oil: olive oil obtained by refining virgin olive oil.

C. Olive oil: oil consisting of a blend of refined olive oil and virgin olive oil. Use of the term "pure olive oil" shall also be permissible.

D. Crude olive-pomace oil: oil obtained by treating olive pomace with solvent (excluding oil obtained by re-esterification processes and any mixture with oils of other kinds) and intended for subsequent refining for human consumption, or for technical use. Crude olive-pomace oil shall be classified and designated as follows:

a) Refined olive-pomace oil: oil intended for food use and obtained by refining crude olive-pomace oil.

b) Olive-pomace oil: blend of refined olive-pomace oil and virgin olive oil. In no case shall this blend be called "olive oil".

c) Olive-pomace oil for technical use:2/all other crude olive-pomace oils.

2. Each of the above designations for the various qualities of olive oil and olive-pomace oil shall comply with the quality criteria laid down in conformity with the recommendations made under article 36, paragraph 3, in regard to standards for the physical, chemical and organoleptic characteristics of olive oil and olive-pomace oil.

3. The Council may, by unanimous decision, make all such amendments to the designations or definitions in this article as it deems necessary or appropriate.

2/ Not relevant to the Codex standard.

REPORT OF THE AD HOC WORKING GROUP ON METHODS OF ANALYSIS AND SAMPLING

1. An <u>ad hoc</u> Working Group was set up to discuss the various methods of analysis and sampling issues referred to it by the Oils and Fats Committee and arising out of the work of the Committee, from the on-going review of the methods of analysis included in the Codex Fats and Oils Standards and from the Report of the Fifteenth Session of the Codex Committee on Methods of Analysis and Sampling (ALINORM 87/23)

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

Dr D C Abbott	(AOAC)
Mr C T Ashton	(ISO)
Dr O Atil	(Malaysia)
Mr T L Mounts	(USA/AOCS)
Mr M Pike	(FOSFA)
Mr W D Pocklington	(IUPAC/UK)
Dr J B Rossell	(FOSFA)
Dr A Thomas	(FRG)
Dr R Wood	(UK) (Chairman/Rapporteur)

3. The Working Group observed a minute's silence in memory of Dr K A Williams. He had played a prominent part over many years in the work of various International Organisations (notably IUPAC and IASC) concerned with the standardisation of method of analysis for fats and oils.

4. Up-Dating of References for Methods of Analysis

The Working Group appreciated that wherever reference is made to either AOAC or IUPAC methods in this Report or in other Fats and Oils Standards containing such references in their analysis sections, then such references will have to be amended to the latest available editions of the methods (ie for the AOAC the 14th (1984) edition and for IUPAC, the 7th edition (to be published in 1987).

The Working Group considered that such amendments and up-dating should be carried out by the Secretariat after completion of the present Session.

5. Problems of Detection and Estimation of Individual Oils/Fats in Admixture of OIls (CX/FO 87/15 and CX/FO 87/2-Add.1)

This paper had been discussed at the Fifteenth Session of the Codex Committee on Methods of Analysis and Sampling. That Committee had commented on the difficulties involved in the detection and estimation of individual oils and fats in mixtures and noted that the problem raised by India was not an easy one to resolve.

It also noted that, in general terms, it would only be possible to detect gross adulteration of oils and fats by the analysis procedures currently available and that the conclusions given in the paper prepared by India (CX/FO 87/15), ie that a substantial amount of work needs to be carried out in this area are very valid.

The Working Group noted that one of the tests proposed for the presence of sesame oil, the Baudoin Test, could be replaced by the Pavolini Test, which is significantly more sensitive.

The Working Group agreed and endorsed the conclusions reached by CCMAS, namely:

"1. it took note that the problem raised by India was not an easy one to resolve, and

2. that the efforts being made by various Organisations, 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."

6. Determination of Erythrodiol Content of Grape Seed Oil (CX/FO 87/16)

The Working Group considered a proposed method of analysis to determine erythrodiol in grape seed oil and the form of expression of results of erthrodiol content.

The Working Group:

1. noted that the method developed by IUPAC for the determination of erythrodiol content had been subjected to a collaborative trial, the results of which are acceptable. It therefore recommended that the method be included in the Codex Standard for Edible Grape Seed Oil (CODEX STAN 127-1981) at Section 8.6, subject to its endorsement by CCMAS. The method is a Type II procedure with reference "IUPAC Standard Method of Analysis for Oils, Fats and Derivatives, 7th edition, 1987, 2.431 (published method validation and collaborative trial results given in Pure and Appl. Chem., 1986, 58(7) , 1023), and

2. noted the suggestion given in CX/FO 87/16 that the Standard at Section 3.1.6 be amended so that the erythrodiol content is expressed relative to beta-sitosterol, ie that the Standard be changed at Section 3.1.6 to read

"3.1.6. Erythrodiol content - not less than 3% of the beta-sitosterol content."

The Working Group welcomed any change in expression of the content of erythrodiol content whereby it would be related to a single sterol, ie beta-sitosterol, rather than the total sterol content as that would be analytically easier.

7. Methods of Analysis for Draft Standards on [Vanaspati/Vegetable Fat Mixture] and [Mixed Vanaspati/Substitute Ghee] (CX/FO 87/17)

The Working Group considered the suggestions for the methods of analysis that should be included in the appropriate sections of the Draft Standards for [Vanaspati/Vegetable Fat Mixture] and [Mixed Vanaspati/Substitute Ghee]. The Working Group considered each method requirement individually and recommended that:

1. Determination of Acid Value (Type I)

IUPAC (1979) method (IUPAC Standard Method for the Analysis of Oils, Fats and Derivatives, 6th Edition, 1979, 2.201, Parts 1-4) be given. Results to be expressed as number of mg KOH required to neutralise 1g of product.

2. Determination of Peroxide Value (Type I)

IUPAC (1979) Method (IUPAC Standard Method for the Analysis of Oils, Fats and Derivatives, 6th Edition, 1979, 2.501) and ISO 3960-1977 (confirmed 1985) (equivalent methods) be given. Results to be expressed as milliequivalents active oxygen/kg product.

3. Determination of Slip Point (Type I)

The Working Group noted that there is an AOCS method published for this procedure (AOCS Official Method cc 3-25) (1983) and that there will be an ISO procedure available; the ISO procedure (draft number 6231) is under current appraisal having been collaboratively tested. A choice between the two methods will have to be made in the future in the light of published collaborative trial data, but in the meantime the AOCS method is recommended.

Results to be expressed as degrees C.

4. Determination of Vitamin A Content (Type II)

AOAC (1980) method (Official Methods of Analysis of the AOAC, 1980, 13th Edition, 43.001-007) be given. Results to be expressed as ug retinol (Vitamin A - alcohol) per kg product.

5. Determination of Vitamin D Content (Type II)

AOAC (1980) method (Official Methods of Analysis of the AOAC, 1980, 13th Edition, 43.195-208) be given. Results to be expressed as ug Vitamin D per kg product.

6. Determination of Vitamin E Content (Type II)

IUPAC (1981) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Derivatives, 6th Edition, 1st Supplement, Part 4, 1981, 2.404) be given. Results to be expressed as mg of each tocopherol per kg of product.

7. Determination of Matter Volatile at 105 C (Type I)

IUPAC (1979) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Derivatives, 6th Edition, 1979, 2.601) and ISO 662-1980 (equivalent methods) be given. Results to be expressed as % m/m.

The Working Group noted that there was a discrepancy between the Standard (which stated a temperature of 105 C) and the methods which used a temperature of 103 C. It suggested that clarification on this point be sought though noting that if a temperature of 105 C were to be used in the methods, then the methods would, strictly, need to be subjected to repeat collaborative trial validation. Nethertheless, it would be prepared to recommend the IUPAC and ISO methods on a temporary basis but using the elevated temperature.

8. Determination of Insoluble Impurities (Type I)

IUPAC (1979) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Derivatives, 6th Edition, 1979, 2.604) and ISO 663-1981 (equivalent methods) be given. Results are expressed as % m/m.

9. Determination of Soap Content (Type I)

FAO/WHO Codex Alimentarius Methods (FAO/WHO Methods of Analysis for Edible Oils and Fats, CAC/RM 13-1969, Determination of Soap Content) be given. The results are expressed as % m/m sodium oleate.

The Working Group noted that it has been proposed within ISO that work on this determination be arranged, and it looked forward to seeing the results of that work.

10. Determination of Iron (Type II/III)

AOCS Method Ca 18-79 be given. Results to be expressed as mg of iron per kg of product.

The Working Group noted that ISO are developing a procedure suitable for the determination of iron in oils and fats (draft method 8294) and looked forward to seeing the results of the collaborative trial which has been carried out to validate the method; it could be given as an alternative procedure.

11. Determination of Copper (Type II/III)

AOCS Method Ca 18-79 be given. Results are to be expressed as mg of copper per kg of product.

The Working Group noted that ISO are developing a procedure suitable for the determination of copper in oils and fats (draft method 8294) and looked forward to seeing the results of the collaborative trial which has been carried out to validate the method; it could be given as an alternative procedure.

12. Determination of Lead (Type II)

The Working Group noted that preliminary work on an IUPAC/ISO method for the determination of lead in oils and fats has been carried out. When this method is validated and finalised, then it could be recomended. The Working Group considered that other available methods for the determination of lead were not appropriate to an oils or fat matrix.

Results will be expressed as mg of lead per kg of product.

13. Determination of Arsenic (Type II)

The AOAC colorimetric silver diethyldithiocarbamate method (Official Methods of Analysis of the AOAC, 1980, 14th Edition, 25.006-008, 012-013) be given. Results to be expressed as mg of arsenic per kg product.

14. Determination of Milk Fat Content (Type I)

The Working Group recommended that the IUPAC Method (ref: Pure & Appl. Chem. 1986, 58(10) , 1419) for determination of butyric acid in oils and fats be used to estimate the cows' milk fat with a given factor to convert percentage butyric acid to percentage milk fat; it is suggested that the average value 3.6% m/m is used.

The Working Group did not have information on procedures to be used to estimate the fat content of other mammalian species if they were to be used in the products.

8. Other Matters Arising from the Report of the Codex Committee on Methods of Analysis and Sampling (CX/FO 87/2-Add.1, extracts from ALINORM 87/23)

The Working Group noted that matters of interest to CCFO were discussed at the

Fifteenth Session of CCMAS; many of these have been discussed elsewhere in this Report but in addition the Group noted or agreed

1. that the recommendations on acceptance of Codex methods of analysis had been proposed by CCMAS and that these were now endorsed by the Codex Committee on General Principles. It agreed with the recommendations on the obligations involved in accepting Codex methods.

2. that the recommendation by the International Olive Oil Council that the expression of results section in the method of determination of fatty acids at position 2 in olive oil given in the Codex Standard for Olive Oil (CODEX STAN 33-1981) be amended (to include the words "...... at position 2") be accepted.

3. that "modern" methods of analysis for different vitamins were or are being proposed (eg IUPAC is preparing an HPLC method for vitamin E). The Group considered that such methods should be considered as soon as they become available in a collaboratively tested form.

4. that the method for fatty acid composition in the Edible Low Erucic Acid Rapeseed Oil Standard (CODEX STAN 123-1981) should remain as presently given as total fatty acid composition is required as well as the erucic acid content. It was also noted that some Oils and Fats Standards do not include reference to the methods of analysis for the GLC fatty acid ranges when they should be so referenced. It is suggested that both the IUPAC (2.301 and 2.302) and ISO methods (5508-1978 and 5509-1978) are listed were appropriate.

9. Methods of Sampling in Oils and Fats Standards

The Working Group noted that the Report of the Fifteenth Session of the Codex Committee on Methods of Analysis and Sampling will request each Codex Commodity Committee to review its methods of sampling. Although this request had not yet been endorsed by the Codex Commission the opportunity was taken by the Fats and Oils to initiate such a review at this Session (CX/FO 87/19).

The Working Group had before it two conference room documents to aid the review process. These were:

a. Instructions on Codex Sampling Procedures (CX/MAS 1-1987),

b. Review of Methods of Sampling in Codex Standards and Consideration of the Nature of Methods of Sampling Required for Codex Standards (Conference Room document 8). This paper contained an Appendix giving examples of how a Review of methods of sampling applicable to the Codex Fats and Oils Committee might be carried out.

The Working Group studied these two papers and expressed thanks to the Codex Committee on Methods of Analysis and Sampling for the substantial amount of information and guidance contained in them.

It agreed that:

1. a Review of the methods of sampling provisions contained in the Fats and Oils Standards should be carried out.

2. that the sub-division into types of characteristics proposed in the Review paper (conference room document 8) should be adopted.

3. that there were some errors in the classification of characteristics of each

Standard into the types of sampling plan being suggested in the Review paper. This was mainly caused by amendments to the commodity Standards being made after the Review paper had been prepared. Such modifications should be included in the final sampling review paper prepared by the Secretariat.

4. that the sampling plan would apply to all characteristics in the Standard, ie to contaminants as well as compositional characteristics.

5. that it was only necessary to agree the form and substance of the sampling and analysis sections of one Codex Fats and Oils Standard. This would serve as a model for the other Fats and Oils Standards. This model is given as an Annex to the Working Group's report.

6. that the sampling procedures, and subsequent analytical requirements, proposed in the Review paper were too complex given the nature of the commodity in question. For fats and oils in bulk it is suggested that a number of items be individually procured and then combined to form a blended bulk sample which is used for the analysis. The individual analysis of multiple items was considered to be unnecessary. The result of the analysis of the blended bulk sample would determine whether or not the lot would comply with the value of the characteristic in the Standard. This procedure corresponded to a simple 'average' approach to the interpretation of the value of the characteristic in the Standard.

This approach was accepted.

It was also accepted for small 'retail' items where again, in the light of experience in the processing procedures of the oils and fats industry, it may be assumed that there are not significant differences between items produced as part of one lot.

The number of items to be taken to be bulk blended sample was dependent on the size of the lot. It was suggested that

a. the number of items in a lot should relate to the weight in kg of the lot,

b. the number of items to be taken to form the blended bulk sample should be as given by inspection level 2 of Table 3 of the Instructions on Sampling.

The Annex gives an example of a possible re-structured Methods of Analysis and Sampling section for Edible Soya Bean Oil (CODEX STAN 20-1981) which could be used as a model for other Codex Standards.

If this approach on sampling is accepted by the Committee, then the Working Group recommends that the Secretariat be request to amend the other Codex Fats and Oils Standards to aligned with the example now given in the Annex.

7. the procedures given in ISO 5555-1983 (ISO Standard Animal and Vegetable Fats and Oils - Sampling) may be recommended to be used to procure individual items.

ANNEX

PROPOSED SAMPLING PROVISIONS IN THE EDIBLE SOYA BEAN OIL STANDARD (CODEX STAN 20-1981)

Replace present Section 8 by:

8. METHODS OF ANALYSIS AND SAMPLING

8.1 Sampling for Commodity Defects

None in this Standard.

8.2 Sampling for Compositional Criteria

Sampling for relative density, refractive index, saponification value, iodine value, unsaponifiable matter, acid value, peroxide value, fatty acid composition, propyl gallates, butylated hydroxytoluene, butylated hydroxyanisole, TBHQ, ascorbyl palmitate, ascorbyl stearate, dilauryl thiopropionate, isopropyl citrate mixture, monoglyceride citrate, phosphoric acid, dimethyl polysiloxane, oxystearin, matter volatile at 105 C, insoluble impurities, soap, iron, copper, lead and arsenic contents.

Take number of items corresponding to inspection level 2 of Table 3 of Sampling Instructions (CX/MAS 1-1987). Bulk items and homogenise. Analyse one sample from the blended (homogenised) bulk sample.

Number of items in a lot shall correspond to weight in kg of th lot for bulk samples and to number of individual containers for retail sample packs [to apply in all sampling situations].

Accept lot if result of the analysis of blended bulk sample meets specification.

The Working Group considered that both additives and contaminants, as well as the conventional commodity characteristics, should be sampled using the above procedure.

8.3 Sampling for Net Contents

In accordance with principles set out in Net Contents Section of Sampling Instructions, CX/MAS 1-1987.

8.4 Sampling for Specific Health Related Properties

Use sampling plans recommended by Codex Committee on Food Hygiene.

8.5 Determination of Relative Density

As 8.1 (to 8.14) of the present Standard.

NOTE: some Fats and Oils Standards will require sampling for attribute characteristics. Examples of these are given in Conference Room document 8, as well as examples of alternative sampling procedures which have not been used as they are considered to be unnecessarily complex in the case of the Fats and Oils Standards.

REPORT OF THE AD HOC WORKING GROUP ON THE REVIEW OF GLC FATTY ACID RANGES

The following members constituted the ad hoc Working Group:

1. Mr K G Berger (Malaysia)
2. Mr J M Hochard (France)
3. Dr J K G Kramer (Canada)
4. Dr T L Mounts (US)
5. Mr M Pike (UK)
6. Mr W D Pocklington (IUPAC/Chairman)
7. Prof L Reio (Sweden)
8. Dr J B Rossell (FOSFA)
9. Dr A Thomas (FRG)
10. Prof H Wessels (FRG)
11. Prof J P Wolff (France)

The Working Group concerned itself with the following points:

a) the advisability of making mandatory the fatty acid ranges cited in the Standards

b) amendments considered necessary to be made to the GLC fatty acid ranges as given in ALINORM 79/17 Appendix XI and in the Standard for Low Erucic Acid Rape Seed Oil.

The Working Group arrived at the following conclusions:

a) Proposal for mandatory fatty acid ranges

The majority of the ad hoc WG was in favour of making the fatty acid ranges mandatory. However, several members considered that this would lead to difficulties in enforcing the Standards in some countries where it was found that genuine oils possessed fatty acid ranges outside those cited in the Standards. A proposal that the Standards could include a phrase such as "Countries may adopt the fatty acid ranges as mandatory within their territories where the local situation merits this course of action" was not accepted.

b) Revision of existing fatty acid ranges

(i) Since the comment by Thailand (CX/FO 87/14) did not provide details as to the number of samples analysed or origin of the products the ad hoc WG was unable to make any recommendation regarding the proposals by Thailand.

(ii) Low Erucic Acid Rapeseed Oil - the Canadian, French, FRG and UK delegations provided data to show that the following changes should be made:

	Present Range	Proposed Range
C18:0	0.9 - 2.1	0.8 - 2.5
C18:2	18 - 30	18 - 28
C22:0	< 0.5	< 0.6
C22:1	< 5.0	< 2.0
C24:1	No Value	< 0.2

It was also recommended that clause 3.1.8 Erucic acid should be amended to read "not more than 2% (m/m) of the component fatty acids". Furthermore, the upper limit of the relative density (section 3.1.1) be revised to 0.920 and the lower limit of saponification value (section 3.1.3) revised from 188 to 182.

(iii) Other oils - information provided by the French, FRG, Malaysian and UK delegations, together with the views of the other Specialists in the ad hoc WG, recommended the following amendments to the current ranges (where acids are not mentioned these are to remain unchanged):

Soyabean Oil

Codex STAN 20-1981

	Present Range	Proposed Range
C18:0	1.4 - 5.5	3.0 - 5.5
C18:1	19 - 30	18 - 26
C18:2	44 - 62	50 - 57
C18:3	4.0 - 11	5.5 - 10
C20:0	< 1.0	< 0.6
C20:1	< 1.0	< 0.5
C22:0	< 0.5	< 0.5
C24:0	-	< 0.5

Arachis oil

Codex STAN 21-1981

C18:3	< 1.0	< 0.3
C22:1	< 2.0	< 0.3

Sunflower Seed Oil

Codex STAN 23-1981

Fatty Acid	Present Range	Proposed Range
C18:1	14-65	14-35
C18:2	20-75	55-75
C18:3	< 0.7	< 0.3

Maize Oil

Codex STAN 25-1981

Fatty Acid	Present Range	Proposed Range
C12:0	< 0.1	< 0.3
C14:0	< 0.1	< 0.3
C16:0	8.0-19	9-14
C18:1	19-50	24-42

Coconut Oil **Codex STAN 124-1981**

Fatty Acid	Present Range	Proposed Range
C6:0	< 1.2	0.4-0.6
C8:0	3.4-15	5.0-10.0
C10:0	3.2-15	4.5-8.0
C12:0	41-56	43-51
C14:0	13-23	16-21
C16:0	4.2-12	7.5-10
C18:0	1.0-4.7	2.0-4.0
C18:1	3.4-12	5.0-10.0
C18:2	0.9-3.7	1.0-2.5
Others	No Value	< 0.5

Palm Oil **Codex STAN 125-1981**

Fatty Acid	Present Range	Proposed Range
C12:0	< 1.2	< 0.4
C14:0	0.5-5.9	0.5-2.0
C16:0	32-59	41-47
C18:0	1.5-8.0	3.5-6.0
C18:1	27-52	36-44
C18:2	5.0-14	6.5-12.0
C18:3	<1.5	<0.5

Palm Kernel Oil **Codex stan 126-1981**

Fatty Acid	Present Range	Proposed Range
C6:0	< 0.5	< 0.8
C10:0	2.6-7.0	2.6-5.0
C14:0	14-20	14-18
C16:0	6.5-11	6.5-10
C18:0	1.3-3.5	1.3-3.0
C18:1	10-23	12-19
C18:2	0.7-5.4	1.0-3.5
Others	No Value Given	< 1.0

Furthermore, in the case of Palm Kernel Oil it is recommended that the iodine value range be revised (at present 13-23) to 14.5-19 (Wijs).

c) Future revision of fatty acid ranges

In view of the developments of new varieties of oilseeds, making possible the commercial production of oils with fatty acid ranges outside those cited in the present Standards, together with the need to examine in detail all the cited (and proposed) ranges, it was the unanimous recommendation of the ad hoc WG that a committee should be appointed with the specific task of collating information on the fatty acid ranges cited in all Codex Standards applicable to oils and fats in current commercial production. The ad hoc WG proposed that FOSFA International be invited to undertake this task. The collated data could be reviewed and recommendations made by such a committee with a view to submitting amendments to the cited fatty acid ranges to the Commission. The ad hoc working group was of the opinion that there was a need for such a review on a permanent basis with amendments to sited ranges being made from time to time as considered necessary.

PROPOSALS FOR THE REVISION OF THE CODEX STANDARDS FOR EDIBLE FATS AND OILS
(VOLUME XI OF THE CODEX ALIMENTARIUS)

A **CODEX STANDARDS FOR EDIBLE OILS**

The following revised text of the labelling provisions applies to the Standards listed below:

Edible Soya Bean Oil	CODEX STAN. 20-1981
Edible Arachis Oil	CODEX STAN. 21-1981
Edible Cottonseed Oil	CODEX STAN. 22-1981
Edible Cottonseed Oil	CODEX STAN. 23-1981
Edible Sunflowerseed Oil	CODEX STAN. 24-1981
Edible Rapeseed Oil	CODEX STAN. 25-1981
Edible Maize Oil	CODEX STAN. 26-1981
Edible Safflowerseed Oil	CODEX STAN. 27-1981
Edible Mustardseed Oil	CODEX STAN. 34-1981
Edible Low Erucic Acid Rapeseed Oil	CODEX STAN. 123-1981
Edible Coconut Oil	CODEX STAN. 124-1981
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

7. LABELLING

In addition to Sections 2, 3, 7 and 8 of the General Standard for the labelling of Prepackaged Foods (Ref. No. CODEX STAN. 1-1985*) for following specific provisions apply:

7.1 The Name of the Food

Note: All provisions included in this section remain unchanged, except that the following footnote is made to section 7.1.1 of those Standards which list more than one name:

"Governments notifying acceptance the of Standard are requested to indicate the name(s) required to be declared on the label in their country."

7.2 List of Ingredients

A complete list of ingredients shall be declared in accordance with Section 4.2 of the General Standard.

7.3 Net Contents

The net contents shall be declared by volume in metric units ("Systeme International") in accordance with Section 4.3 of the General Standard.

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* Hereafter referred to as General Standard.

7.4 Name and Address

The name and address shall be declared in accordance with Section 4.4 of the General Standard.

7.5 Country of Origin

The country of origin shall be declared in accordance with Section 4.5 of the General Standard.

7.6 Lot Identification

The lot identification shall be declared in accordance with Section 4.6 of the General Standard.

7.7 Date Marking

The date of minimum durability shall be declared in accordance with Section 4.7 of the General Standard.

7.8 Instructions for Use

Instructions for use shall be given in accordance with Section 4.8 of the General Standard.

7.9 Quantitative Declaration of Ingredients

A quantitative declaration of ingredients shall be made in accordance with Section 5.1 of the General Standard.

7.10 Exemptions from Mandatory Labelling Requirements

Exemptions from Mandatory Labelling Requirements shall be made in accordance with Section 6 of the General Standard.

7.11 Labelling of Non-Retail Containers (Outer Containers for a Number of Prepackaged Foods Only)*

In addition to Section 2 and 3 of the General Standard the following specific provisions apply to outer containers of a number of prepackaged containers of the product covered by the Standard.

Information required in Sections 7.1 to 7.9 shall either be given on the container or in accompanying documents, except that the name of the product, lot identification, and name and address of the manufacturer or packer shall appear on the container.

However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such mark is clearly identifiable with the accompanying documents.

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* see paras 14-18 of the Report of the Working Group on the Revision of Labelling Provisions in Standards for Fats and Oils (see Appendix VI).

B. CODEX STANDARDS FOR EDIBLE FATS

The following revised text of the labelling provisions applies to the Standards listed below:

Lard	CODEX STAN. 28-1981
Rendered Pork Fat	CODEX STAN. 29-1981
Premier Jus	CODEX STAN. 30-1981
Edible Tallow	CODEX STAN. 31-1981

7. LABELLING

In addition to Sections 2, 3, 7 and 8 of the General Standard for the labelling of Prepackaged Foods (Ref. No. CODEX STAN. 1-1985*) the following specific provisions apply:

7.1 The Name of the Food

Note: All provisions included in this section remain unchanged, except that the following footnote is made to section 7.1.1 of those Standards which list more than one name:

"Governments notifying acceptance of the Standard are requested to indicate the name(s) required to be declared on the label in their country."

7.2 List of Ingredients

A complete list of ingredients shall be declared in accordance with Section 4.2 of the General Standard.

7.3 Net Contents

The net contents shall be declared by weight in metric units ("Systeme International") in accordance with Section 4.3 of the General Standard.

7.4 Name and Address

The name and address shall be declared in accordance with Section 4.4 of the General Standard.

7.5 Country of Origin

The country of origin shall be declared in accordance with Section 4.5 of the General Standard.

7.6 Lot Identification

The lot identification shall be declared in accordance with Section 4.6 of the General Standard.

7.7 Date Marking

The date of minimum durability shall be declared in accordance with Section 4.7 of the General Standard.

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* Hereafter referred to as General Standard

7.8 Instructions for Use

Instructions for use shall be given in accordance with Section 4.8 of the General Standard.

7.9 Quantitative Declaration of Ingredients

A quantitative declaration of ingredients shall be made in accordance with Section 5.1 of the General Standard.

7.10 Exemptions from Mandatory Labelling Requirements

Exemptions from Mandatory Labelling Requirements shall be made in accordance with Section 6 of the General Standard.

7.11 Labelling of Non-Retail Containers (Outer Containers for a Number of Prepackaged Foods Only)*

In addition to Section 2 and 3 of the General Standard the following specific provisions apply to outer containers of a number of prepackaged containers of the product covered by the Standard.

Information required in Sections 7.1 to 7.9 shall either be given on the container or in accompanying documents, except that the name of the product, lot identification, and name and address of the manufacturer or packer shall appear on the container

However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such mark is clearly identifiable with the accompanying documents.

C CODEX STANDARD FOR MARGARINE
(CODEX STAN 32 - 1981)

8. LABELLING

In addition to Sections 2, 3, 7 and 8 of the General Standard for the labelling of Prepackaged Foods (Ref. No. CODEX STAN. 1-1985**) the following specific provisions apply:

8.1 The Name of the Food

- unchanged.

8.2 List of Ingredients

A complete list of ingredients shall be declared in accordance with Section 4.2 of the General Standard.

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* see paras 14-18 of the Report of the Working Group on the Revision of Labelling Provisions in Standards for Fats and Oils (see Appendix VI)

** Hereafter referred to as General Standard

8.3 Net Contents

The net contents shall be declared by weight in metric units ("Systeme International") in accordance with Section 4.3 of the General Standard.

8.4 Name and Address

The name and address shall be declared in accordance with Section 4.4 of the General Standard.

8.5 Country of Origin

The country of origin shall be declared in accordance with Section 4.5 of the General Standard.

8.6 Lot Identification

The lot identification shall be declared in accordance with Section 4.6 of the General Standard.

8.7 Date Marking

The date of minimum durability shall be declared in accordance with Section 4.7 of the General Standard.

8.8 Instructions for Use

Instructions for use shall be given in accordance with Section 4.8 of the General Standard.

8.9 Quantitative Declaration of Ingredients

A quantitative declaration of ingredients shall be made in accordance with Section 5.1 of the General Standard.

8.10 Labelling Prohibitions

- unchanged.

8.11 Exemptions from Mandatory Labelling Requirements

Exemptions from Mandatory Labelling Requirements shall be made in accordance with Section 6 of the General Standard.

8.12 Labelling of Non-Retail Containers (Outer Containers for a Number of Prepackaged Foods Only)*

In addition to Section 2 and 3 of the General Standard the following specific provisions apply to outer containers of a number of prepackaged containers of the product covered by the Standard.

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* see paras 14-18 of the Report of the Working Group on the Revision of Labelling Provisions in Standards for Fats and Oils (see Appendix VI)

Information required in Sections 8.1 to 8.9 shall either be given on the container or in accompanying documents, except that the name of the product, lot identification, and name and address of the manufacturer or packer shall appear on the container.

However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such mark is clearly identifiable with the accompanying documents.

D CODEX STANDARD FOR MINARINE (CODEX STAN 135-1981)

8. LABELLING

In addition to Sections 2, 3, 7 and 8 of the General Standard for the labelling of Prepackaged Foods (Ref. No. CODEX STAN. 1-1985*) for following specific provisions apply:

8.1 The Name of the Food

- unchanged

8.2 List of Ingredients

A complete list of ingredients shall be declared in accordance with Section 4.2 of the General Standard.

8.3 Net Contents

The net contents shall be declared by weight in metric units ("Systeme International") in accordance with Section 4.3 of the General Standard.

8.4 Name and Address

The name and address shall be declared in accordance with Section 4.4 of the General Standard.

8.5 Country of Origin

The country of origin shall be declared in accordance with Section 4.5 of the General Standard.

8.6 Lot Identification

The lot identification shall be declared in accordance with Section 4.6 of the General Standard.

8.7 Date Marking

The date of minimum durability shall be declared in accordance with Section 4.7 of the General Standard.

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* Hereafter referred to as General Standard.

8.8 Instructions for Use

Instructions for use shall be given in accordance with Section 4.8 of the General Standard.

8.9 Quantitative Declaration of Ingredients

A quantitative declaration of ingredients shall be made in accordance with Section 5.1 of the General Standard.

8.10 Labelling Prohibitions

- unchanged.

8.11 Exemptions from Mandatory Labelling Requirements

Exemptions from Mandatory Labelling Requirements shall be made in accordance with Section 6 of the General Standard.

E CODEX GENERAL STANDARD FOR EDIBLE FATS AND OILS NOT COVERED BY INDIVIDUAL STANDARDS (CODEX STAN 19-1981)

7. LABELLING

In addition to Sections 2, 3, 7 and 8 of the General Standard for the labelling of Prepackaged Foods (Ref. No. CODEX STAN. 1-1985*) for following specific provisions apply:

7.1 The Name of the Food

- unchanged.

7.2 List of Ingredients

A complete list of ingredients shall be declared in accordance with Section 4.2 of the General Standard.

7.3 Net Contents

The net contents shall be declared by volume in metric units ("Systeme International") in accordance with Section 4.3 of the General Standard.

7.4 Name and Address

The name and address shall be declared in accordance with Section 4.4 of the General Standard.

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* Hereafter referred to as General Standard.

7.5 Country of Origin

The country of origin shall be declared in accordance with Section 4.5 of the General Standard.

7.6 Lot Identification

The lot identification shall be declared in accordance with Section 4.6 of the General Standard.

7.7 Date Marking

The date of minimum durability shall be declared in accordance with Section 4.7 of the General Standard.

7.8 Instructions for Use

Instructions for use shall be given in accordance with Section 4.8 of the General Standard.

7.9 Quantitative Declaration of Ingredients

A quantitative declaration of ingredients shall be made in accordance with Section 5.1 of the General Standard.

7.10 Exemptions from Mandatory Labelling Requirements

Exemptions from Mandatory Labelling Requirements shall be made in accordance with Section 6 of the General Standard.

7.11 Labelling of Non-Retail Containers (Outer Containers for a Number of Prepackaged Foods Only)*

In addition to Section 2 and 3 of the General Standard the following specific provisions apply to outer containers of a number of prepackaged containers of the product covered by the Standard.

Information required in Sections 7.1 to 7.9 shall either be given on the container or in accompanying documents, except that the name of the product, lot identification, and name and address of the manufacturer or packer shall appear on the container.

However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such mark is clearly identifiable with the accompanying documents.

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* See paras 14-18 of the Report of the Working Group on the Revision of Labelling Provisions in Standards for Fats and Oils (see Appendix VI)

REVISED LABELLING PROVISIONS FOR STANDARDS BEING PRESENTLY ELABORATED

A PROPOSED DRAFT STANDARD FOR SPECIFIED VEGETABLE FAT PRODUCT

8. LABELLING

In addition to Sections 2, 3, 7 and 8 of the General Standard for the labelling of Prepackaged Foods (Ref. No. CODEX STAN. 1-1985*) the following specific provisions apply:

8.1 The Name of the Food

The product shall be designated in accordance with the Laws and Customs in the country in which the produce is sold and in a manner so as to not mislead the consumer; eg. Vanaspati.[y] Any product so designated shall conform to this Standard.

8.2 List of Ingredients

A complete list of ingredients shall be declared in accordance with Section 4.2 of the General Standard.

8.3 Net Contents

The net contents shall be declared by weight in metric units ("Systeme International") in accordance with Section 4.3 of the General Standard.

8.4 Name and Address

The name and address shall be declared in accordance with Section 4.4 of the General Standard.

8.5 Country of Origin

The country of origin shall be declared in accordance with Section 4.5 of the General Standard.

8.6 Lot Identification

The lot identification shall be declared in accordance with Section 4.6 of the General Standard.

8.7 Date Marking

The date of minimum durability shall be declared in accordance with Section 4.7 of the General Standard.

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* Hereafter referred to as General Standard.

[y] Governments notifying acceptance of the Standard are requested to indicate the name(s) required to be declared on the label in their country.

8.8 Instructions for use

Instructions for use shall be given in accordance with Section 4.8 of the General Standard.

8.9 Quantitative Declaration of Ingredients

A quantitative declaration of ingredients shall be made in accordance with Section 5.1 of the General Standard.

8.10 Labelling Prohibitions

No reference shall be made, other than in a complete list of ingredients, to the presence of any vitamin in specified vegetable fat products unless the name and the quantity of the vitamin is stated on the label.

8.11 Exemptions from Mandatory Labelling Requirements

Exemptions from Mandatory Labelling Requirements shall be made in accordance with Section 6 of the General Standard.

8.12 Labelling of Non-Retail Containers (Outer Containers for a Number of Prepackaged Foods Only)@

In addition to Section 2 and 3 of the General Standard the following specific provisions apply to outer containers of a number of prepackaged containers of the product.

Information required in Sections 8.1 to 8.9 shall either be given on the container or in accompanying documents, except that the name of the product, lot identification, and name and address of the manufacturer or packer shall appear on the container.

However lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such mark is clearly identifiable with the accompanying documents.

B PROPOSED DRAFT STANDARD FOR SPECIFIED ANIMAL OR MIXED ANIMAL AND VEGETABLE FAT PRODUCT

8. LABELLING

In addition to Sections 2, 3, 7 and 8 of the General Standard for the labelling of Prepackaged Foods (Ref. No. CODEX STAN. 1-1985*) the following specific provisions apply:

@ see paras 14-18 of the Report of the Working Group on the Revision of Labelling Provisions in Standards for Fats and Oils (see Appendix VI)

* Hereafter referred to as General Standard.

y Governments notifying acceptance of the Standard are requested to indicate the name(s) required to be declared on the label in their country.

8.1 The Name of the Food

The product shall be designated in accordance with the Laws and Customs in the country in which the produce is sold and in a manner so as to not mislead the consumer.[y] Any product to be designated shall conform to this Standard.

8.2 List of Ingredients

A complete list of ingredients shall be declared in accordance with Section 4.2 of the General Standard.

8.3 Net Contents

The net contents shall be declared by weight in metric units ("Systeme International") in accordance with Section 4.3 of the General Standard.

8.4 Name and Address

The name and address shall be declared in accordance with Section 4.4 of the General Standard.

8.5 Country of Origin

The country of origin shall be declared in accordance with Section 4.5 of the General Standard.

8.6 Lot Identification

The lot identification shall be declared in accordance with Section 4.6 of the General Standard.

8.7 Date Marking

The date of minimum durability shall be declared in accordance with Section 4.7 of the General Standard.

8.8 Instructions for use

Instructions for use shall be given in accordance with Section 4.8 of the General Standard.

8.9 Quantitative Declaration of Ingredients

A quantitative declaration of ingredients shall be made in accordance with Section 5.1 of the General Standard.

8.10 Labelling Prohibitions

8.10.1 No reference shall be made to the presence of milk fat or butter in specified animal and vegetable fat residues except in a complete list of ingredients.

8.10.2 No reference shall be made, other than in a complete list of ingredients, to the presence of any vitamin in specified animal and vegetable fat mixtures, unless the name and the quantity of the vitamins is stated in the label.

8.11 Exemptions from Mandatory Labelling Requirements

Exemptions from Mandatory Labelling Requirements shall be made in accordance with Section 6 of the General Standard.

8.12 Labelling of Non-Retail Containers (Outer Containers for a Number of Prepackaged Foods Only)@

In addition to Section 2 and 3 of the General Standard the following specific provisions apply to outer containers of a number of prepackaged containers of the product.

Information required in Sections 8.1 to 8.9 shall either be given on the container or in accompanying documents, except that the name of the product, lot identification, and name and address of the manufacturer or packer shall appear on the container.

However lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such mark is clearly identifiable with the accompanying documents.

C REVISION OF CODEX STANDARD FOR OLIVE OIL, VIRGIN AND REFINED, AND FOR REFINED OLIVE-POMACE OIL CODEX STAN 33-1981

7. LABELLING

In addition to Sections 2, 3, 7 and 8 of the Codex General Standard for the labelling of Prepackaged Foods (Ref. No. CODEX STAN. 1-1985*) the following specific provisions apply:

7.1 The Name of the Food

7.1.1 All products designated as "olive oil" shall conform to the provisions of this standard for virgin olive or refined olive oil and shall be either virgin olive oil, refined olive oil or a blend of refined olive oil and virgin olive oil.

7.1.2 All products designated as "virgin olive oil" shall conform to the provisions for virgin olive oil.

7.1.3 All products designated as "refined olive oil" shall conform to the provisions for refined olive oil.

7.1.4 All products designated as "refined olive-pomace oil" shall conform to the provisions for refined olive-pomace oil.

@ see paras 14-18 of the Report of the Working Group on the Revision of Labelling Provisions in Standards for Fats and Oils (see Appendix VI)

* Hereafter referred to as General Standard.

7.1.5 Refined olive-pomace oil shall be in no case be described as "olive oil" but shall always be designated as "refined olive-pomace oil".

7.1.6 Blends of refined olive-pomace oil and virgin olive oil shall be described as "olive-pomace oil".

7.2 List of Ingredients

A complete list of ingredients shall be declared in accordance with Section 4.2 of the General Standard.

7.3 Net Contents

The net contents shall be declared by volume in metric units ("Systeme International") in accordance with Section 4.3 of the General Standard.

7.4 Name and Address

The name and address shall be declared in accordance with Section 4.4 of the General Standard.

7.5 Country of Origin

The country of origin shall be declared in accordance with Section 4.5 of the General Standard.

7.6 Lot Identification

The lot identification shall be declared in accordance with Section 4.6 of the General Standard.

7.7 Date Marking

The date of minimum durability shall be declared in accordance with Section 4.7 of the General Standard.

7.8 Instructions for use

Instructions for use shall be given in accordance with Section 4.8 of the General Standard.

7.9 Quantitative Declaration of Ingredients

A quantitative declaration of ingredients shall be made in accordance with Section 5.1 of the General Standard.

7.10 Exemptions from Mandatory Labelling Requirements

Exemptions from Mandatory Labelling Requirements shall be made in accordance with Section 6 of the General Standard.

7.11 Labelling of Non-Retail Containers (Outer Containers for a Number of Prepackaged Foods Only)*

In addition to Section 2 and 3 of the General Standard the following specific provisions apply to outer containers of a number of prepackaged containers of the products covered by the Standard.

Information required in Sections 8.1 to 8.9 shall either be given on the container or in accompanying documents, except that the name of the product, lot identification, and name and address of the manufacturer or packer shall appear on the container.

However lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such mark is clearly identifiable with the accompanying documents.

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* see paras 14-18 of the Report of the Working Group on the Revision of Labelling Provisions in Standards for Fats and Oils (see Appendix VI)

ALINORM 87/17
APPENDIX XIII

DRAFT AMENDMENTS TO CODEX STANDARDS FOR INDIVIDUAL FATS AND OILS (at Step 8)

Amendment 1. The following to be included in Section 3 of all Codex Standards for individual fats and oils.

"Raw Materials

Oils used as a raw material for the manufacture should comply with the GLC fatty acid ranges as specified in Section 3."

Amendment 2. The following footnote to be added to Section 3 Identity Characteristics of all Codex Standards for individual fats and oils: "Samples falling outside the GLC fatty acid ranges are not in compliance with the Standard. Supplementary non-mandatory criteria may be employed if it is considered necessary to confirm that a sample is in compliance with the Standard."