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ALINORM 74/19
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JOINT FAO/WHO FOOD STANDARDS PROGRAMME
CODEX ALIMENTARIUS COMMISSION
10th session, Rome, 1-12 July 1974
REPORT OF THE SEVENTH SESSION OF THE CODEX COMMITTEE ON FATS AND OILS
London, 25-29 March 1974

INTRODUCTION

1. The Codex Committee on Fats and Oils held its Seventh Session from 25 to 29 March in London under the chairmanship of Mr. A.W. Hubbard of the United Kingdom. The session was attended by representatives from 35 countries, and observers from 7 organizations. A list of participants, including officers from FAO, is given in Appendix I.

2. The participants were welcomed on behalf of the Government of the United Kingdom by Mr. C.D.E. Keeling, Under-Secretary of the Ministry of Agriculture, Fisheries and Food, responsible for work on Food Standards.

ADOPTION OF AGENDA

3. The Committee adopted the Provisional Agenda (CX/FO 74/1) but decided to take item 13 (Canadian paper on levels of erucic acid in oils of brassica species) after item 7 (standard for margarine).

REVIEW OF GOVERNMENT ACCEPTANCES OF STEP 9 STANDARDS FOR FATS AND OILS

Amendment to the Procedure for Acceptance of Standards

4. The representative of the FAO/WHO Food Standards Programme informed the Committee of the recommendation made at the meeting of the Committee on General Principles to replace Acceptance with Minor Deviations by a formula of Acceptance with Specified Deviations. The new formula would put the onus on individual governments accepting standards to specify all deviations and to declare the conditions under which products conforming to the standards could enter and circulate freely in their territory. He also confirmed that the Government of Canada had changed its approach; legislation in Canada would now precede publication in the Codex Alimentarius. This approach would be likely to assist the Codex acceptance procedure as previously they were waiting publication in the Codex before proposing legislation in Canada.

EEC Food Law Harmonization Programme

5. The representative of the EEC reported that the work which the Codex Committee on Fats and Oils had done was providing a useful and important basis for the preparation of draft directives within the Community. Proposals for EEC legislation for Olive Oil, Margarine and Fats and Oils were under consideration.

Present Position on Acceptances by Governments

6. The Committee noted the present position on acceptances by governments set out in document CX/FO 74/2. In addition it was recorded that:

(i) Bulgaria had now accepted the Recommended Standard for Olive Oil, Virgin and Refined, and for Refined Olive-Residue Oil (CAC/RS 33-1970);

(ii) Portugal had now accepted the emulsifiers listed in Section 4.3.6 of the Recommended International Standard for Margarine (CAC/RS 32-1969);

(iii) Italy was generally against provisions for colours, flavours and emulsifiers in the standards. It would consider for acceptance the Recommended International Standard for Olive Oil, Virgin and Refined, and for Refined Olive-Residue Oil (CAC/RS 33-1970) only if the Italian methods of analysis were adopted. The position to date regarding acceptances is summarized at Appendix II.

Scope of the Standards

7. The delegate of the USA drew attention to the omission of "Scope" sections from many of the standards. It was not always clear to which type of products the standards were intended to apply. The Committee agreed that the scope of certain standards should be clarified and proposed that:

(i) the term "edible" should be defined in every standard to indicate that the standards applied to fats and oils suitable for direct consumption;

(ii) the term "virgin" should be defined in each standard in which a distinction was made between "virgin" and "non-virgin" oils;

(iii) the inclusion of virgin oils in standards other than the Olive Oil Standard should be considered in the light of (i) above.

The FAO Secretariat confirmed that the standards would be suitably clarified after legal advice had been sought to establish the most appropriate way of implementing the Committee's proposals.

Lard (CAC/RS 28-1969)

8. The delegate of Portugal proposed the inclusion of a Bömer Value of not less than 72 in the Recommended International Standard for Lard. The representative of IUPAC confirmed that a study of methods used in the determination of Bömer Value had been completed. The Committee instructed the Secretariat to circulate to governments for comment the proposal of the delegate of Portugal together with the IUPAC method.

Edible Tallow (CAC/RS 31-1969)

9. The FAO Secretariat agreed with the delegate of Spain that a linguistic problem arose in the Spanish text of this standard in regard to the description of "sebo-comestible". An editorial amendment to the Spanish text would be made to clarify the description.

CONSIDERATION OF REVISED IDENTITY CHARACTERISTICS FOR FATS AND OILS BASED ON GAS LIQUID CHROMATOGRAPHY

10. The Committee considered document CX/FO 74/3 together with conference room documents CX/FO 74/3-Addendum 1 (setting out the latest text of the IUPAC methods II D 19 - Preparation of the Fatty Acid Methyl Esters - and II D 25 - Gas Liquid Chromatography of Fatty Acid Methyl Esters), CX/FO 74/3-Addendum 2 (recording the details of the Secretariat's literature search - for which copyright is reserved by the Secretariat) and CX/FO 74/3-Addendum 3 (tabulating ranges proposed by the Secretariat on the basis of comments already received from member countries).

11. During a discussion on the status of the GLC criteria, a number of delegates supported retention of the existing identity characteristics in the present standards. However, there was a majority view that analysis of the fatty acids of fats and oils by GLC provided useful evidence of authenticity. The Committee considered that immediate inclusion of fatty acid analysis in the standards on a mandatory basis would be premature.

12. The Committee proceeded to agree a single range of values for each fatty acid in the individual fats and oils with the exception of rapeseed oils (see para 40 and Appendix III). Although a number of governments were of the opinion that both normal and extreme ranges should be considered for inclusion in the standards, doubts were expressed by the Committee as to the relevance of extreme ranges. In the absence of an agreed definition of the terms "normal" and "extreme" ranges, the ranges were established on the understanding that they were typical of commercial samples of bona fide fats and oils.

13. It was agreed that, in practice, a range of "not greater than 0.1%" indicated that a fatty acid was normally present in a quantifiable amount whereas a blank indicated that a fatty acid was not normally detected.

14. These ranges will be circulated to governments for comment together with IUPAC methods II D 19 and II D 25. In particular, member countries will be invited to comment on (i) regional deviations resulting from the effect of genetic and climatic variations, and (ii) the effect of acceptance of the proposed GLC ranges on the traditional criteria in the present standards.

SOLVENT RESIDUES

15. The Committee had before it document CX/FO 74/4 which summarised replies from governments together with information from previous Codex documents on the solvents used for the extraction of fats and oils, on specifications of purity of the solvents, on residue levels in the fats and oils and on appropriate methods of analysis for these residues.

16. Discussion showed that Appendix I of paper CX/FO 74/4 included both extraction solvents and solvents used for processing purposes. Those solvents still in use were classified as follows:

EXTRACTION	PROCESSING
Propane	Methanol
Butane	Ethanol
Hexane	Propan-2-ol
Heptane	Acetone
Petroleum ether	2-Nitropropane
Naphtha	
1,1,2-Trichloroethylene	
Tetrachloroethylene	
Carbon disulphide	

17. The Committee agreed that consideration should be limited for the time being to extraction solvents and that further information was required on processing solvents. The Committee noted that a list of carrier solvents was being considered by the Codex Committee on Food Additives.

18. The Committee was of the opinion that, in accordance with good manufacturing practice, residues of extraction solvents in fats and oils would, after deodorization, not normally exceed 10 ppm, and reiterated their view expressed at the 4th session (ALINORM 68/11, para 17) that solvent residues in fats and oils did not present a problem. Consequently, the Committee did not prescribe a limit for solvent residues in the standards for fats and oils. It hoped that these views would assist the Codex Committee on Food Additives in its consideration of solvents in general.

19. The delegate representing IUPAC stated that IUPAC methods would be available for the determination of solvent residues. The Secretariat agreed to collate information on methods of analysis for submission to the Codex Committee on Methods of Analysis and Sampling.

20. The FAO Secretariat confirmed that specifications were a matter for the Joint FAO/WHO Expert Committee on Food Additives and that specifications would be circulated for comment.

RECOMMENDED GENERAL STANDARD FOR EDIBLE FATS AND OILS

Emulsifiers

21. The Committee had before it paper CX/FO 74/5 which gave further information from the USA in support of their proposal to amend the General Standard for Edible Fats and Oils by the addition of the following emulsifiers:

succinylated monoglycerides
stearoyl propylene glycol hydrogen succinate
stearyl monoglyceridyl citrate

The delegate of the USA explained to the Committee that these emulsifiers were used in the oil ingredient of cake mixes and similar prepared foods to provide greater tolerance for the domestic consumer in making up the finished product, that is, to help ensure satisfactory cooking results despite variations in, e.g. oven temperatures, size of eggs, added foods such as fruits. In the light of this information the Committee attempted to assess the technological need for these substances, particularly having regard to the General Principles for the Use of Food Additives adopted by the Codex Alimentarius Commission.

22. The Committee was not convinced, on the basis of the evidence provided, of the technological need for these emulsifiers in fats and oils as such, but noted that they were added in fats sold for certain manufacturing purposes where the fat could act as a carrier for the emulsifier. The Committee also noted that at its third

session, the Committee decided that the General Standard should cover oils for direct consumption (ALINORM 66/11, para 4) and that at its fourth session the Committee agreed to include in the Standard provisions for emulsifiers in fats and oils used in baking and cooking fats (ALINORM 68/11, para 11). The Committee endorsed these decisions and agreed that the USA description of the product in question would bring it outside the scope of the General Standard for Edible Fats and Oils. It was agreed that the Committee's conclusions as to the scope of the Standard be referred to governments for comment.

23. The delegate of the USA, supported by the delegate of Norway, said that this left unresolved the question of standards for products sold for manufacturing purposes and emphasized in particular the need to control additives in such products in international trade. With regard to this problem, the Committee noted that the Codex Committee on Food Additives was elaborating open, advisory lists of food additives - including emulsifiers - which had been found safe for use in food by the Joint FAO/WHO Expert Committee on Food Additives. It decided to request the Codex Committee on Food Additives to include the substances proposed for use by the delegation of USA in List B of Food Additives (CX/FA 75/2) so that they could be evaluated by the Joint Expert Committee on Food Additives and, eventually, included in the Codex Advisory List (CAC/FAL 1-1973).

Antioxidant

24. The Committee agreed that the antioxidant 4-hydroxymethyl-2,6-di-tert-butylphenol, which the USA had also proposed for inclusion in the General Standard (CX/FO 74/5), be submitted to the Codex Committee on Food Additives for consideration.

STANDARD FOR MARGARINE

Esters of Glycerol and thermally oxidized soya bean fatty acids (Homodan MO)

25. The Committee had before it document CX/FO 74/6 together with Appendices I and II, setting out the information provided by Denmark on the technological need for the emulsifier esters of glycerol and thermally oxidized soya bean fatty acids. This information had been requested by the Committee at its sixth session (ALINORM 70/11, para 8(b)(iv)).

26. The Chairman drew the attention of the Committee to discrepancies in the reported composition of this emulsifier as recorded in the 15th Report (FAO Nutrition Meetings Report Series No. 50, para 5.3.5) and the 17th Report (FAO/WHO/C/INF 73.3, page 17) of the Joint FAO/WHO Expert Committee on Food Additives. The delegate of Denmark confirmed that the 17th Report was in error and that in "Homodan MO" the thermally oxidized soya bean oil and the mono-diglycerides were not present as a simple mixture but were interesterified (glycerol esters of fatty acids interesterified with fatty acids from thermally oxidized soya bean oil).

27. The Committee noted that the legal status of the above emulsifier in a number of the countries listed in para 2 of CX/FO 74/6-Appendix I had changed. The delegates of Norway, Switzerland and the Federal Republic of Germany pointed out that it was not included in their current list of permitted food additives.

28. While the necessity to consider this additive had not arisen in many countries, the majority of delegates were prepared to accept that there was a limited case of technological need for this additive in margarine in a small number of countries. The delegate of Italy reserved his position. The delegate of Belgium stressed the importance of establishing priority criteria for this additive as well as the importance of a method to identify the additive in margarine.

29. The Committee agreed to request the Codex Committee on Food Additives to submit Homodan MO to the Joint FAO/WHO Expert Committee on Food Additives for re-evaluation.

Method of Analysis for Water Content

30. The Committee had before it document CX/FO 74/7 and also document CX/MAS/70/C/1 containing the method elaborated by the delegate of the Netherlands for the determination of water content of margarine. This method had been referred to the Committee by the Codex Committee on Methods of Analysis and Sampling (ALINORM 71/23, paras 16-17).

31. In support of this method, the delegate of the Netherlands stated that the results of their collaborative study, set out in Tables I-V of CX/MAS/70/C/1, clearly showed that the use of sand as a support during the drying procedure gave superior results, especially with unsalted margarine.

32. The Committee agreed that this method (see Appendix IV) should be circulated by the Secretariat to governments for comment and that governments should be invited to comment on the need to dry dishes in a desiccator rather than in air as proposed in the method (bearing in mind the views expressed at the sixth session of the Codex Committee on Methods of Analysis and Sampling (ALINORM 71/23, para 17)).

LOW ERUCIC ACID RAPESEED OIL

33. The Committee had before it the paper prepared by the Canadian delegation on the problem of edible oils sold on the basis of specific fatty acid composition, in particular low erucic acid rapeseed oil (CX/FO 74/15). The delegate of Canada, in amplification of this paper, referred to the progress made in Canada and parts of Europe over the past twenty years in breeding varieties of oil-bearing plants yielding oils of significantly different fatty acid composition. As a result there was now appreciable international trade in low erucic acid rapeseed oil. This oil had distinctive nutritional, physical and chemical properties, and the delegate of Canada proposed that a separate international standard be developed for it on the lines indicated in Annex II of the paper.

34. Because some delegates were not convinced that fatty deposits in the heart were due to high intake of erucic acid, they expressed doubts as to the advantage, on medical grounds, for such an oil. It was, therefore, agreed that the FAO/WHO Expert Committee on Nutrition be asked to consider the health implications of the erucic acid content of rapeseed oil and also of the poly-unsaturated acids of oils such as sunflower seed oil. The Committee recognized that there was a significant and increasing international trade in rapeseed oil low in erucic acid content and that this oil satisfied the criteria laid down by the Codex Alimentarius Commission for the development of new standards.

35. Consideration was given to the possibility of amending the existing standard for rapeseed oil to accommodate the new product but, in view of the distinctive properties of this new oil and the likelihood that trade in the traditional oil would in time phase out, the majority of delegates were in favour of elaborating a separate new standard. The Committee agreed to proceed on this basis.

36. The Committee gave preliminary consideration to the draft standard submitted by Canada and, subject to certain modifications, agreed that it be sent out to governments for comment at Step 3. The Draft Standard as modified is at Appendix V of the Report.

37. With regard to the proposed level for Brassicasterol, the delegate of Italy explained that, due to the low erucic acid content of the new oil, sterols became more significant in identifying the species. He also informed the Committee that on the basis of a limited range of samples the average composition of the sterol fraction of rapeseed oil had been found to be:

cholesterol	0.5
brassicasterol	9.2
campesterol	37.3
stigmasterol	1.2
beta-sitosterol	51.8

The Committee agreed to request governments to supply information on the composition of the sterol fraction of rapeseed oils. As regards a method of analysis to determine the sterol content, the delegate of Italy stated that a method for this purpose was being developed which was based on the method for the determination of sterols in olive oil.

38. The Committee questioned the need for reference to virgin forms of the oil and it was agreed that consideration of this matter could be deferred until the view of the FAO/WHO legal experts had been given on the general issue (ref. para 7).

39. The Committee agreed to invite governments to submit details of methods for the determination of the erucic acid content.

40. As regards the fatty acid composition of rapeseed oil, it was agreed that the Committee's Secretariat ask governments to supply additional data relating to the composition of both low and high erucic acid rapeseed oil, so that proposed ranges could be issued to governments for comment (ref. paras 10-14).

LOW FAT SPREADS

41. The Committee had before it the proposal by the International Federation of Margarine Associations that an international standard be developed for low fat spreads (CX/FO 74/8). The Committee noted that certain foods with low fat content came within the ambit of the Codex Committee on Foods for Special Dietary Uses but on the advice of the representative of the FAO/WHO Food Standards Programme, the Committee concluded that the nature of low fat spreads was such that it was appropriate that they be dealt with in this Committee which had the necessary expertise in the technology of these products. The Committee was also informed that the Codex Alimentarius Commission had accepted at its session in 1972 that this item would be on the agenda for the present session of this Committee.

42. In amplification of the paper the representative of IFMA stated that the product was marketed in nine member states but was prohibited in some others. There was consumer demand for it in view of its usefulness when a reduction in calorie intake from fat was desired. International trade was developing.

43. The majority of delegates spoke in support of the development of a standard for these products. The delegate of Italy opposed the proposal in view of the commercial nature of the product. The delegate of the UK pointed out that low-fat butter spreads were also being introduced and suggested that the FAO and this Committee consider the implications of giving international recognition to low-fat spreads of the margarine type while no regard was being given internationally to similar products based on milk fat. It was suggested that there would be an opportunity to consider this point when the draft standard was submitted to the Commission at Step 5.

44. In view of the overwhelming support for the proposal the Committee agreed to proceed with the development of a standard. Governments were invited to propose a suitable international designation for this product. It was agreed that the FAO Secretariat, in collaboration with IFMA and the Committee Secretariat, bring the proposed draft standard into line with Codex format for issue to governments for comment at Step 3.

STANDARD FOR OLIVE OIL

45. The Committee had before it documents CX/FO 74/9, CX/FO 74/10, CX/FO 74/11 and also conference room documents setting out information provided by Italy on their own methods of analysis for the determination of fatty acids at position-2 in olive oil triglycerides (CX/FO 74/10-Addendum 1) and for the determination of sterols (CX/FO 74/11-Addendum 1).

Determination of Tocopherols

46. The method for the determination of tocopherols described in the Recommended International Standard for Margarine (CAC/RS 32-1969) had been adopted for inclusion in the Recommended International Standard for Olive Oil, Virgin and Refined, and for Refined Olive Residue Oil (CAC/RS 33-1970) at the eighth session of the Codex Alimentarius Commission. At the same time the Commission had referred consideration of the new method being developed by IUPAC to the Codex Committee on Fats and Oils (ALINORM 71/31, paras 181-182).

47. The representative of IUPAC confirmed that their method was still under discussion. He stressed that the method would be applicable to all oils and should obviate the difficulties encountered in the analysis of virgin olive oils by the present methods involving paper chromatography. He expected that final agreement on the method would be reached in August 1974. The Committee noted the continuation of these studies and expressed the hope that the agreed IUPAC method would be available for endorsement at its next meeting.

Determination of fattyacids at position -2 and the determination of sterols

48. The Committee considered the proposals by the International Olive Oil Council to include in the standard for olive oil criteria and methods of analysis for fatty acids in position-2 (CX/FO 74/10) and for sterols (CX/FO 74/11). The Committee accepted that these criteria served a useful purpose in detecting adulteration of olive oil and agreed in principle to the inclusion of both these criteria in the standard.

49. The representative of IUPAC informed the Committee that IUPAC was coordinating a collaborative study of available methods of analysis for both these criteria. The Committee expressed every hope that the final texts of both methods would be available for circulation to governments for comment before the next meeting together with experimental evidence in support of the methods. The Codex Committee on Methods of Analysis and Sampling had recently confirmed that such evidence should accompany methods of analysis presented to them for endorsement (ALINORM 74/23, paras 4-7). The Committee agreed that the insertion of limits for these new criteria should be deferred pending the finalization of the methods of analysis.

50. The delegate of Brazil indicated that research was in progress into the usefulness of analysis of the free and esterified sterol fractions in the oils identifying adulteration. Details of progress would be forwarded to the Secretariat for circulation.

DRAFT INTERNATIONAL STANDARDS FOR COCONUT OIL, PALM OIL AND PALM KERNEL OIL

51. The Committee considered document CX/FO 74/12. The Chairman proposed, and the Committee agreed that, in the light of earlier discussions on the scope of the standards (see para 7), the Committee should limit its discussion to those oils which were suitable for direct consumption only. The Chairman invited delegates representing countries producing these oils to confirm:

(i) that these oils were traded in a form suitable for direct consumption;

(ii) whether they wished to proceed with the elaboration of standards.

52. The delegate of Ghana informed the Committee that coconut oil, palm kernel oil and palm oil were produced in Ghana. Both virgin and refined oils were directly consumed. Ghana was preparing standards for these oils and was in favour of the elaboration of international standards. The delegate of Ivory Coast stated that his country was a major producer of palm oil and that it also produced coconut oil in small quantities but not palm kernel oil. Both virgin palm oil and refined palm oil were consumed locally and a large part of virgin palm oil was exported. Ivory Coast had no official standards at the present time and would appreciate the guidance that Codex standards would provide. The delegate of the United Republic of Cameroon agreed with the delegates of Ghana and Ivory Coast that standards should be elaborated. That country produced large amounts of palm oil, increasing amounts of palm kernel oil but no coconut oil. Palm oil was consumed and exported in the virgin state. Of the other producing countries, Australia, Brazil and Malaysia were in favour of elaborating standards. Virgin oils were not directly consumed in Malaysia.

53. The Committee agreed to proceed with the elaboration of standards for palm oil, palm kernel oil and coconut oil. The standards would include both virgin and non-virgin oils which were suitable for direct consumption. The Committee requested the Secretariat to collate:

(i) the information already presented in document CX/FO 74/12;

(ii) the additional information from Portugal and the USA which was inadvertently omitted from document CX/FO 74/12 (see Appendix VI); and

(iii) any further information, including volume of trade, which the Secretariat may receive from the producing countries (see para 51) and prepare preliminary draft standards for consideration at the next meeting.

PROPOSED STANDARDS FOR OTHER VEGETABLE OILS

54. The Chairman stated that very little information had been submitted to enable the Committee to take a decision as to whether there was any need to develop standards for babassu oil, grapeseed oil, shea butter, illipe butter and pumpkin oil (document CX/FO 74/13). He invited delegates from interested countries to state their position.

55. In the light of information given by delegates from the floor the Committee agreed that production of babassu and grapeseed oils justified further consideration of standards for these oils. The delegates of France, Argentina, Portugal, Italy, Spain and other producing countries were requested to submit particulars of their production, consumption, trade and legislation for grapeseed oil to the Committee

Secretariat. The delegate of Brazil offered to submit particulars regarding babassu oil. The Committee Secretariat would present data for consideration at the next session.

56. The Committee noted that there were no sales of shea butter and illipe butter for direct consumption, and that production of pumpkin oil was at present very small and limited to domestic sales in Yugoslavia and Austria. It was agreed that there was no justification for proceeding with the elaboration of standards for these oils.

MARINE OIL

57. The Committee had before it paper CX/FO 74/14 regarding the possible need for the elaboration of standards for marine oil. The delegate of Norway stated that apart from medicinal cod liver oil, which was covered by the International Pharmacopoeia specification, there were no sales of unrefined marine oil for direct human consumption; there was also the problem of identity due to significant variations in the fatty acid composition depending not only on species but also on geographical origin of the fish. The delegate of the USA suggested, nevertheless, that a standard be elaborated for unrefined marine oil for food manufacturing purposes and offered to provide a draft standard for consideration by the Committee.

58. The Committee was not convinced of any need at this time to develop standards for refined marine oil. In reply to the USA delegate the Chairman stated that the General Standard for Edible Fats and Oils covered marine oils suitable for direct consumption. Nevertheless, he invited the USA delegate to submit a paper, including a draft standard, to the Secretariat, for consideration by the Committee at its next session, particularly as to whether or not there was a need to elaborate a standard for unrefined marine oils for food manufacturing purposes.

OTHER BUSINESS

59. The Chairman accepted an offer from the delegate of Brazil to provide the technical secretariat with a method for the detection of vegetable oils in milk fat based on the presence of specific antioxidants.

APPENDIX I

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LISTE DES PARTICIPANTS
LISTA DE PARTICIPANTES

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APPENDIX II

SUMMARY OF ACCEPTANCES OF FATS AND OILS STANDARDS TO-DATE

(See paragraph 6 of this Report)

Recommended Standard	General Standard for Fats and Oils (CAC/RS 19-1969)	Edible Soya Bean Oil (CAC/RS 20-1969	Edible Arachis Oil (CAC/RS 21-1969)	Edible Cottonseed Oil (CAC/RS 22-1969)	Edible Sunflowerseed Oil (CAC/RS 23-1969)	Edible Rapeseed Oil (CAC/RS 24-1969)	Edible Maize Oil (CAC/RS 25-1969)	Edible Sesameseed Oil (CAC/RS 26-1969
Algeria								
Argentina	**			**				
Bahrein	0	0	0	0	0	0	0	0
United Rep. of Cameroon	0	0	0	0	0	0	0	0
Central African Rep.	0	0	0	0	0	0	0	0
Cyprus	X	X	X	X	X	X	X	X
Dominican Rep.								
Ghana	0	0		X	X	X	X	X
Hungary	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Iran								
Iraq								
Italy								
Ivory Coast	0	0	0	0	0	0	0	0
Jordan								
Morocco		X	X	X	X	X	X	X
Portugal			**	**	**		**	
Romania								
Rep. of S. Africa								
Spain								
Rep. of Sudan	0	0	0	0	0	0	0	0
Trinidad & Tobago	X	X	X	X	X	X	X	X
Tunisia								
Turkey								
People's Dem. Rep. of Yemen	0	0	0	0	0	0	0	0
Rep. of Zaire	0	0	0	0	0	0	0	0

(Cont.)

Recommended Standard	Edible Safflowerseed Oil (CAC/RS 27-1969)	Lard (CAC/RS 28-1969)	Rendered Pork Fat (CAC/RS 29-1969)	Premier Jus (CAC/RS 30-1969)	Edible Tallow (CAC/RS 31-1969)	Margarine (CAC/RS 32-1969)	Olive Oils (CAC/RS 33-1970)	Mustardseed Oil (CAC/RS 34-1970)
Algeria							O	
Argentina		**	**	**		**		
Bahrein	O	O	O	O	O	O	O	O
Bulgaria							O	
Fed. Rep. of Cameroon	O	O	O	O	O	O	O	O
Central African Rep.	O	O	O	O	O	O	O	O
Cyprus	X	X	X	X	X	X	**	X
Dominican Rep.							(*)	
Ghana		O	X	X		X		
Hungary	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Iran						O	O	
Iraq							O	
Italy							(*)1/	
Ivory Coast	O	O	O	O	O	O	O	O
Jordan							(*)	
Morocco	X					X	**	X
Portugal	**	**	**	**	**	**	O	
Romania								
Rep. of S. Africa							O	
Spain							O	
Rep. of Sudan	O	O	O	O	O	O	O	O
Trinidad & Tobago	X	X	X	X	X	X	O	X
Tunisia							**	
Turkey							O	
People's Dem. Rep. of Yemen	O	O	O	O	O	O	O	O
Rep. of Zaire	O	O	O	O	O	O	O	O

1/ The question as to whether this form of acceptance reflects Italy's position is open.

O = Full Acceptance. X = Target Acceptance.

** = Acceptance with minor deviations

(*) = Acceptance given, or presumed to be given, but not stated specifically to be Full Acceptance.

FATTY ACID COMPOSITION OF FATS AND OILS BY GLC
(See paragraphs 10-14 of this Report)

RANGES REFER TO TYPICAL COMMERCIAL SAMPLES OF BONE FIDE FATS AND OILS

Fatty Acid	ARACHIS	COTTON-SEED	LARD & RENDER-ED PORK FAT	MAIZE	MUSTARD-SEED	PREMIER JUS AND EDIBLE TALLOW	SAFFLOWER-SEED	SESAMESEED	SOYABEAN	SUNFLOWER-SEED
C<14	<0.1	< 0.1	< 0.5	<0.1	< 0.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
C14:0	< 0.1	0.5-2.0	0.5-2.5	< 0.1	< 1.0	1.4-6.3	<1.0	< 0.5	< 0.5	< 0.5
C14:1			< 0.2			0.5-1.5				
C15:0			< 0.1			0.5-1.0				
C15:ISO			< 0.1			< 1.5				
C16:0	6.0-15.5	17-29	20-32	8.0-19	0.5-4.5	20-37	2.0-10	7.0-12	7.0-12	3.0-10
C16:1	< 1.0	0.5-1.5	1.7-5.0	< 0.5	< 0.5	0.7-8.8	< 0.5	< 0.5	< 0.5	< 1.0
C16:2						< 1.0				
C16:ISO			< 0.1			< 0.5				
C17:0			< 0.5			0.5-2.0				
C17:1			< 0.5			< 1.0				
C17:ISO										
C18:0	1.3-6.5	1.0-4.0	5.0-24	0.5-4.0	0.5-2.0	6.0-40	1.0-10	3.5-6.0	2.0-5.5	1.0-10
C18:1	36-72	13-44	35-62	19-50	8.0-23	26-50	7.0-42	35-50	19-30	14-65
C18:2	13-45	33-58	3.0-16	34-62	10-24	0.5-5.0	55-81	35-50	48-58	20-75
C18:3	< 1.0	0.1-2.1	< 1.5	< 2.0	6.0-18	< 2.5	< 1.0	< 1.0	4-10	< 0.7
C20:0	1.0-2.5	< 0.5	< 1.0	< 1.0	< 1.5	< 0.5	< 0.5	< 1.0	< 1.0	< 1.0
C20:1	0.5-2.1	< 0.5	< 1.0	< 0.5	5.0-13	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5
C20:2			< 1.0		< 1.0					
C20:4			< 1.0			< 0.5				
C22:0	1.5-4.8	< 0.5	< 0.1	< 0.5	0.2-2.5		< 0.5	< 0.5	< 0.5	< 1.0
C22:1	< 0.1	< 0.5			22-50					< 0.5
C22:2					< 1.0					
C24:0	1.0-2.5	< 0.5		< 0.5	< 0.5					< 0.5
C24:1					0.5-2.5					< 0.5

Note: Blank spaces indicate that the fatty acid is not normally present.

APPENDIX IV

GENERAL STANDARD FOR MARGARINE

METHOD OF ANALYSIS FOR WATER CONTENT 1/

1. SCOPE

This standard describes a reference method for the determination of the water content of margarine.

2. DEFINITION

The water content of margarine is defined as the loss of mass, expressed as percentage by mass, as determined by the procedure described under 7.2.

3. PRINCIPLE OF THE METHOD

The water content is determined gravimetrically by drying a known quantity of margarine at 103±2°C in the presence of sand.

4. APPARATUS

4.1 Analytical Balance

4.2 Drying oven, well ventilated and thermostatically controlled, adjusted to operate at 103±2°C.

4.3 Flat bottomed aluminium dishes in diameter 60-80 mm and at least 25 mm high.

4.4 A glass rod of such a length as to prevent it from falling into the sand and melted margarine.

5. REAGENT

Sand: sea sand or quartz sand which passes through B.S.30 mesh test sieve and is retained by a B.S.85 mesh sieve (150-300 micron) shall be prepared by treatment with hot concentrated hydrochloric acid, followed by thorough washing with water. It shall then be heated to a dull red heat.

/6. SAMPLING

Carry out the sampling by the method described in ..... . The representative sample shall weigh not less than 100 g./

7. PROCEDURE

7.1 Preparation of the sample. Mix the sample by means of a stirrer as quickly as possible, preferably at a temperature between 18 and 24°C, but under no circumstances exceeding 35°C.

7.2. Determination of water content

7.2.1 Weigh into the dish about 25 to 30 g sea sand or quartz sand (5) and place the glass rod in the dish. Dry the dish (4.3) in the oven (4.2) at 103±2°C until constant mass.

7.2.2 Allow the dish to cool to the temperature of the balance room (30-35 minutes) and weigh to the nearest 0.1 mg.

7.2.3 Weigh into the dish, between 5 and 7 g of the sample to an accuracy of 0.1 mg. Do not stir.

7.2.4 Place the dish in the oven for one hour at 103±2°C.

7.2.5 Allow the dish to cool to the temperature of the balance room (30-35 minutes) and weigh to the nearest 0.1 mg.

7.2.6 Stir the mass and repeat the drying by placing the dish in the oven for 30 minutes at 103±2°C. Allow to cool and weigh. Repeat the process to constant mass (within 1.5 mg). In the event of an increase in mass, the lowest mass is taken for the calculation.

1/ See paragraphs 30-32 of this Report.

8. EXPRESSION OF RESULTS

8.1 Method of calculation of the water content

The percentage by mass of water content is equal to:

$$\frac{m_1 - m}{m_1} \times 100$$

where

m_1 = mass, in grammes of test portion.

m = mass, in grammes of test portion after drying.

8.2 Repeatability

The difference between results of two determinations carried out simultaneously or in rapid succession by the same analyst should not exceed 0.1% of the product.

APPENDIX V

PROPOSED DRAFT STANDARD FOR EDIBLE LOW ERUCIC ACID RAPESEED OIL - at Step 3 1/

1. DESCRIPTION

Low Erucic acid Rapeseed Oil (synonyms: Canbra Oil; Lobra Oil; Lear Oil) is produced from the low erucic acid oil-bearing seeds of varieties derived from the Brassica napus L., Brassica campestris L. species.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 Identity Characteristics

2.1.1 Relative Density (20°C/water at 20°C)	0.910 - 0.920
2.1.2 Refractive Index (n_D 40°C)	1.465 - 1.469
2.1.3 Saponification Value (mg KOH/g oil)	186 - 198
2.1.4 Iodine Value (Wijs)	94 - 120
2.1.5 Crismer Value	67 - 70
2.1.6 Unsaponifiable Matter	not more than 20 g/kg
2.1.7 Brassicasterol (% of total sterols)	8 - 12
2.1.8 Erucic Acid	not more than 5% (m/m) of the component fatty acids

2.2 Quality Characteristics

2.2.1 Colour: Characteristic of the designated product.
2.2.2 Odour and Taste: Characteristic of the designated product and free from foreign and rancid odour and taste.
2.2.3 Acid Value: not more than 0.6 mg KOH/g oil.
2.2.4 Peroxide Value: not more than 10 milliequivalents peroxide oxygen/kg oil.

3. FOOD ADDITIVES

The following provisions in respect of food additives are subject to endorsement by the Codex Committee on Food Additives.

3.1 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 of use
3.1.1 Beta-carotene	Not limited
3.1.2 Annatto	Not limited
3.1.3 Curcumin	Not limited
3.1.4 Canthaxanthine	Not limited
3.1.5 Beta-apo-8'-carotenal	Not limited
3.1.6 Methyl and ethyl esters of Beta-apo-8'-carotenoic acid	Not limited

1/ See paragraphs 33-40 of this Report.

3.2 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.

	Maximum level of use
3.3 Antioxidants	
3.3.1 Propyl, octyl and dodecyl gallates	100 mg/kg, individually or in combination
3.3.2 Butylated hydroxytoluene (BHT), 3.3.3 Butylated hydroxyanisole (BHA)	200 mg/kg, individually or in combination
3.3.4 Any combination of gallates with BHA or BHT, or both	200 mg/kg, but gallates not to exceed 100 mg/kg
3.3.5 Ascorbyl palmitate, 3.3.6 Ascorbyl stearate	200 mg/kg, individually or in combination
3.3.7 Natural and synthetic tocopherols	Not limited
3.3.8 Dilauryl thiodipropionate	200 mg/kg
3.4 Antioxidant Synergists	
3.4.1 Citric acid	Not limited
3.4.2 Sodium citrate	Not limited
3.4.3 Isopropyl citrate mixture, 3.4.4 Monoglyceride citrate, 3.4.5 Phosphoric acid	100 mg/kg, individually or in combination
3.5 Anti-foaming Agent	
Dimethyl polysiloxane (syn. Dimethyl silicone)	10 mg/kg, singly or in combination with silicon dioxide

4. CONTAMINANTS	Maximum Level
4.1 Matter volatile at 105°C	0.2% m/m
4.2 Insoluble impurities	0.05% m/m
4.3 Soap content	0.005% m/m
4.4 Iron (Fe)	1.5 mg/kg
4.5 Copper (Cu)	0.1 mg/kg
4.6 Lead (Pb)	0.1 mg/kg
4.7 Arsenic (As)	0.1 mg/kg

5. 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).

6. LABELLING

In addition to Sections 1, 2, 4 and 6 of the General Standard for the Labelling of Prepackaged Foods (Ref. CAC/RS 1-1969), the following specific provisions apply:

6.1 The Name of the Food

6.1.1 All products designated as low erucic acid rapeseed oil, low erucic acid turnip rape oil, low erucic acid colza oil, canbra oil, lobra oil, lear oil must conform to this standard.

6.1.2 Where low erucic acid rapeseed oil has been subject to any process of esterification or to processing which alters its fatty acid composition or its consistency, the name low erucic acid rapeseed oil or any synonym shall not be used unless qualified to indicate the nature of the process.

6.2 List of Ingredients

6.2.1 A complete list of ingredients shall be declared on the label in descending order of proportion.

6.2.2 A specific name shall be used for ingredients in the list of ingredients except that class titles may be used in accordance with sub-section 3.2(c)(ii) of the General Standard for the Labelling of Prepackaged Foods.

6.3 Net Contents

The net contents shall be declared in accordance with sub-section 3.3(a) of the General Standard for the Labelling of Prepackaged Foods.

6.4 Name and Address

The name and address of the manufacturer, packer, distributor, importer, exporter or vendor of the product shall be declared.

6.5 Country of Origin

6.5.1 The country of origin of the product shall be declared if its omission would mislead or deceive the consumer.

6.5.2 When the product undergoes processing in a second country which changes its nature, the country in which the processing is performed shall be considered to be the country of origin for the purposes of labelling.

7. METHODS OF ANALYSIS AND SAMPLING

The methods of analysis and sampling referred to hereunder are international referee methods and are subject to endorsement by the Codex Committee on Methods of Analysis and Sampling.

7.1 Determination of Relative Density

According to the FAO/WHO Codex Alimentarius Method (FAO/WHO Methods of Analysis for Edible Fats and Oils, 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.

7.2 Determination of Refractive Index

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.B.2 Refractive Index).

Results are given as the refractive index relative to the sodium D-line at 40°C ($n_D 40^{\circ}C$).

7.3 Determination of Saponification Value (I_S)

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.2 Saponification Value (I_S)).

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

7.4 Determination of Iodine Value (I_I)

According to the (Wijs) IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.7.1, II.D.7.2 and II.D.7.3 The Wijs Method).

Results are expressed as % m/m absorbed iodine.

7.5 Determination of Crismer Value (I_C)

According to the AOCS method (Official and Tentative Methods of the American Oil Chemists' Society;AOCS Official Method Cb 4-35, Crismer Test, Fryer and Weston Modification, and Ca5a - 40, Free Fatty acids, calculating the acidity as oleic acid).

Results are expressed by a conventional value (I_C) as described in the method.

7.6 Determination of Unsaponifiable Matter

According to the IUPAC (1964) diethyl ether method (IUPAC)(Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.5.1 and II.D.5.3).

Results are expressed as g unsaponifiable matter/kg oil.

7.7 Determination of Erucic Acid

(Method using gas-liquid chromatography to be developed).

7.8 Determination of Sterols

(Method to be developed).

7.9 Determination of Acid Value (I_A)

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.1.2 Acid Value (I_A)).

Results are expressed as the number of mg KOH required to neutralize 1 g oil.

7.10 Determination of Peroxide Value (I_P)

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.13 Peroxide Value).

Results are expressed as milliequivalents active oxygen/kg oil.

7.11 Determination of Matter Volatile at 105°C

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.C.1.1 Moisture and Volatile Matter).

Results are expressed as % m/m.

7.12 Determination of Insoluble Impurities

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.C.2 Impurities).

Results are expressed as % m/m.

7.13 Determination of Soap Content

According to the FAO/WHO Codex Alimentarius Method (FAO/WHO Methods of Analysis for Edible Fats and Oils, CAC/RM 13-1969, Determination of Soap Content).

Results are expressed as % m/m sodium oleate.

7.14 Determination of Iron (*)

According to the FAO/WHO Codex Alimentarius Method (FAO/WHO Methods of Analysis for Edible Fats and Oils, CAC/RM 14-1969 Determination of Iron Content).

Results are expressed as mg iron/kg.

7.15 Determination of Copper (*)

According to the AOAC (1965) method (Official Methods of Analysis of the AOAC, International Union of Pure and Applied Chemistry Carbamate Method, 24.023-24.028).

Results are expressed as mg copper/kg.

7.16 Determination of Lead (*)

According to the AOAC (1965) method, after complete digestion, by the colorimetric dithizone determination procedure (Official Methods of Analysis of the AOAC, 1965, 24.053 (and 24.008, 24.009, 24.043 j, 24.046, 24.047 and 24.048)).

Results are expressed as mg lead/kg.

7.17 Determination of Arsenic

According to the colorimetric silver diethyldithiocarbamate method of the AOAC (Official Methods of Analysis of the AOAC, 1965, 24.011-24.014, 24.016 - 24.017, 24.006 - 24.008).

Results are expressed as mg arsenic/kg.

(*) Might be replaced by Atomic Absorption Spectrophotometry in the future.

APPENDIX VI

INFORMATION SUBMITTED BY PORTUGAL AND USA ON FATTY ACID COMPOSITION OF PALM OIL, PALM KERNEL OIL AND COCONUT OIL 1/

Fatty Acid	PALM		PALM KERNEL		COCONUT	
	PORTUGAL	USA	PORTUGAL	USA	PORTUGAL	USA
6:0	-	-	0.1-0.5	-	0.3-1.2	0-1.7
8:0	trace	-	3.1-6.2	0.5-4.5	7.2-14.0	3.4-14.8
10:0	trace	-	2.6-4.1	2.1-5.0	3.2-8.1	3.4-9.3
10:1	-	-	trace	-	-	-
11:0	-	-	trace	-	-	-
12:0	< 0.1	0-0.4	41.0-48.5	48.5-58.7	41.4-51.6	43.3-55.8
12:1	-	-	trace	-	-	-
14:0	0.7-1.3	0.4-5.9	15.0-19.1	16.0-21.7	16.8-21.2	14.6-21.8
15:0	trace	-	-	-	-	-
16:0	35.9-45.7	32.0-51.0	7.4-9.9	5.2-10.8	6.6-10.3	4.2-11.1
16:1	0.1-0.4	0-0.6	-	-	-	0-1.0
17:0	trace	-	-	-	-	-
17:1	trace	-	-	-	-	-
18:0	4.2-6.9	1.5-8.0	2.4-3.5	1.5-4.9	1.5-3.3	1.5-4.2
18:1	37.0-45.7	37.6-52.0	13.0-20.6	4.7-14.6	3.9-9.5	3.4-11.5
18:2	6.1-16.1	5.0-11.2	1.4-3.2	0.7-3.0	0.9-2.2	0.9-3.7
18:3	< 0.3	0-0.3	-	-	-	-
20:0	0.2-0.6	0-0.4	-	-	-	-
20:1	< 0.2	-	-	-	-	-

1/ See paragraph 53 of this Report.