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JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION

Seventh Session, Rome, 7-17 April 1970

REPORT OF THE SIXTH SESSION

OF THE

CODEX COMMITTEE ON FATS AND OILS

Madrid 17-20 November 1969

MR/95763

REPORT OF THE SIXTH SESSION OF THE CODEX COMMITTEE ON FATS AND OILS
Madrid, 17-20 November 1969

1. The Codex Committee on Fats and Oils held its Sixth Session from 17 to 20 November in Madrid under the chairmanship of Mr. J.H.V. Davies of the United Kingdom. Prof. J.M. Martinez Moreno acted as Vice-Chairman. The meeting was attended by 70 delegates from 24 countries and 6 international organizations. A list of those participating is attached as Appendix I.

2. The Committee was welcomed by Dr. A. Delgado Calvete Sub-Director-General of Public Health on behalf of the Spanish Government. Mr. G.O. Kermode, Chief of the Joint FAO/WHO Food Standards Programme, replied to the speech of welcome, on behalf of the Director-General of FAO and WHO.

Adoption of Agenda

3. The Committee adopted the provisional agenda (CODEX/FATS AND OILS/56) but decided to take Item 8 before Item 7.

Recommended Standard for Margarine

Japanese type "Margarine"

4. The Committee had before it CODEX/FATS AND OILS/57 and CODEX/FATS AND OILS/57-Add.1. The Codex Alimentarius Commission had asked the Committee to consider the product referred to by the delegate of Japan.

5. The delegate of Japan informed the Committee that at the present time there was only a very small export market for this product, principally in Korea and the Republic of China. Interest in this product had however been expressed by other countries. Although its primary purpose was in bakery products, it had all the characteristics of margarine save for the emulsion type (oil/water). New products belonging to the margarine family were constantly being developped and it was important that they should all be considered for inclusion in the margarine standard. So far as Japanese type margarine was concerned, his country would be willing to accept a special labelling requirement stipulating that the product was "oil/water margarine for baking", provided that the description was altered to include the product within the definition of margarine.

6. The majority of delegates were opposed to amending the standard for margarine so as to include this product, because they did not consider that it had the organoleptic and other properties normally associated with margarine as sold to the consumer in their countries.

7. The Committee agreed that they would not propose any amendment to the margarine standard. They recognized that there were a number of products which did not conform to the standard for margarine which might require to be standardized at some future date. It might be necessary to examine all these products with a view to elaborating a separate standard or standards for them. It might then be possible to agree on an international name for the product described by the delegate of Japan which would obviate the difficulties to which the delegate of Japan had drawn attention.

Additives

8. The Committee had before it CODEX/FATS AND OILS/58, CODEX/FATS AND OILS/58-Add.1 and CODEX/FATS AND OILS/60. The Committee noted the decisions of the Codex Committee on Food Additives about the various additives included in the recommended standard for margarine.

(a) Flavours

The Committee was informed of the decisions taken by the Codex Committee on Food Additives about flavours. It was pointed out that the wording proposed by the Committee: "Natural flavours as defined in the Codex Alimentarius and their identical synthetic equivalents and synthetic flavours appearing in the permitted Codex list" raised certain difficulties in a standard which was about to be sent to Governments for acceptance since there was no definition of "natural flavours" in the Codex Alimentarius and there was also no Codex permitted list of flavours although a number of flavouring substances had been evaluated by the Joint FAO/WHO Expert Committee on Food Additives. The Committee agreed that the most appropriate wording for the provision in para. IV(b) of the recommended standard would be :

(i) natural flavours and their identical synthetic equivalents except those which are known to represent a toxic hazard;

(ii) other synthetic flavours approved by the Codex Alimentarius Commission.

(b) Provision of further additives in the standard

The Committee considered certain proposals to amend the standard by the addition of certain additives.

(i) Stearyl citrate

After some discussion the delegate of the USA withdrew the proposal that this synergist be added to the standard.

(ii) Calcium disodium EDTA

The Committee noted that this additive had been given a very low ADI by the Joint FAO/WHO Expert Committee. It was suggested that if its use were permitted in margarine it was probable that the ADI would be exceeded in many countries. It would also not be available for use in other foods where the need appeared to be greater. The Committee decided not to proceed with an amendment to the standard to include this additive.

(iii) Phosphates and polyphosphates

The Committee was informed that the ADI laid down by the Joint FAO/WHO Expert Committee for these additives was under review and was already very largely pre-empted by their use in other foods. The Committee decided not to proceed with an amendment to the standard to include these additives.

(iv) Esters of glycerol and thermally oxidized soy-bean fatty acids

The delegate of Denmark drew the Committe's attention to the decision of the Committee at its 4th Session (para. 31 (e)(iii)(a)) to refer this additive to the Codex Committee on Food Additives. He pointed out that the additive had not yet been evaluated either by that Committee or by the Joint FAO/WHO Expert Committee. He explained that the additive was widely used in Scandinavia to give margarine special qualities for special purposes. He wished to ensure that this additive would be considered for inclusion in the standard when next it was reviewed. The Committee was informed that the additive was due to be evaluated by the Joint FAO/WHO Expert Committee and asked the delegate of Denmark to submit a note on the technological need for consideration at a future meeting of the Codex Committee on Fats and Oils.

(c) Methods of analysis for water content

The Committee had before it CODEX/FATS AND OILS/59 which proposed that the method of analysis for water content in Appendix IX A of the Report of the 11th session of the Joint FAO/WHO Committee of Government Expert on Milk and Milk Products should be adopted for margarine. The delegates of the Netherlands and the Federal Republic of Germany suggested that the time taken to carry out the test and its accuracy could be improved if the sample was mixed with sand and dried at 105°C. Most delegates considered the method was satisfactory in its present form. The Committee decided therefore to include the method in the standard and to refer it to the Codex Committee on Methods of Analysis and Sampling for endorsement.

Recommended General Standard for Edible Fats and Oils

9. The Committee had before it CODEX/FATS AND OILS/60, CODEX/FATS AND OILS/61 and CODEX/FATS AND OILS/65. The Committee noted the decisions of the Codex Committee on Food Additives about the various additives included in the Recommended General Standard for Edible Fats and Oils.

(a) Flavours

It was pointed out that the wording proposed by the Codex Committee on Food Additives in respect of flavours raised the same difficulties in respect of this standard as in the recommended standard for margarine (see para. 8(a) above). In view of the way in which the Codex Commission had redrafted para. IV(b) of the standard at its 6th session (Report of the 6th session of the Codex Alimentarius Commission, para. 146 IV) the Committee agreed that the most appropriate wording for the provision in para. IV(b) of the recommended standard would be: "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".

(b) Emulsifiers

The Committee considered certain proposals by the delegate of the USA to amend the standard by the addition of the following emulsifiers:

Succinylated monoglycerides;
Stearoyl propylene glycol hydrogen succinate (Syn: succistearin);
Stearylmonoglyceridyl citrate

After a full discussion the Committee decided not to proceed with an amendment to the standard to include these additives, since it was not convinced that the case for technological need had been fully made out. The Committee recognized, however, the considerable difficulties inherent in trying to establish such a case. It was important that a review of the additive provisions of the standard should begin sufficiently early to allow a revision of the standard to be completed after a reasonable period. The acceptance by countries of the recommended standard and the deviations they declared would help to indicate what amendments were necessary to the additive provisions. The delegate of Denmark drew attention to the problem which might arise if the number of alternative additives were unduly limited, particularly if certain permitted additives had to be withdrawn for reasons of health. The Committee decided that its Secretariat in consultation with the FAO Secretariat and the delegate of the USA should prepare a paper stating, as far as possible, the criteria that should be taken into account in assessing technological need and also giving a full statement of technological need for the particular emulsifiers which the delegate of the USA had put forward for consideration. The Committee agreed that there did not appear to be a need for these emulsifiers to be given priority by the Joint FAO/WHO Expert Committee on Food Additives but thought they might be considered as part of a review of emulsifiers in general.

(c) Antioxidants

The Committee considered a proposal by the delegate of the USA to add the following antioxidants to the standard:

(i) 4-hydroxymethyl-2, 6-di-tert-butylphenol

The Committee decided not to proceed with an amendment to the standard to include this additive at the present time. It recognized however that this additive might possibly be technologically superior to both BHA and BHT to which it was chemically similar. The Committee therefore asked to the delegate of the USA to submit a more detailed statement of its technological performance for consideration by the Committee. In order to obviate delay in the consideration of this additive, the Committee further agreed that the USA should transmit to the Secretariat of the Committee and to the FAO Secretariat any information available to them on the identity, purity and toxicology of the additive.

(ii) Stearyl citrate

As a result of the conclusion reached in para. 8(b)(i) above, the Committee decided not to proceed with consideration of this additive.

(d) Colours other than carotenoids and annatto

The Committee had before it CODEX/FATS AND OILS/65. The Committee noted that no countries had asked for colours other than the carotenoids and annatto to be added to the standard for use in ghee substitutes. The Committee decided therefore that no further action was required.

Statistical sampling plans for prepackaged foods at Step 6

10. The Committee considered the Sampling Plans which had been considered at the last session of the Codex Alimentarius Commission at Step 5 of the Procedure for the Elaboration of Codex Standards and which had been sent to Codex Commodity Committees for their views as to the suitability of the plans for the products for which they were responsible (ALINORM 69/27). During the course of the discussion the following points of substance were made:

(a) the plan was not applicable to large consignments of fats and oils transported in bulk or liquid form. This comprised a very high proportion of total trade;

(b) the plan was designed for application to standards containing quality characteristics capable of organoleptic assessment and provisions in respect of defects; the fats and oils standards did not contain such provisions and it would not be appropriate to apply such sampling plans to the range of values laid down in the identity characteristics for fats and oils.

(c) No Acceptable Quality Level would be possible in sampling oils which had been adulterated with other oils, since no deviation from the standard would be acceptable.

(d) The provisions on fat and moisture contents which were included in the margarine standard made the plans equally unsuitable for the sampling of margarine.

(e) It was clear that any sampling plan for fats and oils would necessarily require an Acceptable Quality Level below 6.5%.

11. The Committee noted that ISO/TC 34 Working Group 1 had begun work on general sampling plans and that the International Olive Oil Council had begun a study of sampling methods for olive oil.

12. The Committee agreed to advise the Codex Committee on Methods of Analysis and Sampling that the plans did not appear to be suitable for the sampling of the products for which the Codex Committee on Fats and Oils had elaborated standards. The Committee noted that consideration was being given to the employment of a consultant statistician by FAO to examine the whole problem of sampling or, alternatively, to the establishment of an Expert Committee for the same purpose.

Provisional Standard for the Technical Procedure for Sampling of Foods at Step 6

13. The Committee had before it ALINORM 69/23 (paras. 81 and 82 and Appendix VI). After a full discussion the Committee decided:

(a) that any sampling plan would have to be of an advisory and not mandatory nature;

(b) that the proposed general procedure did not seem particularly suitable for fats and oils;

(c) that a plan specifically related to the characteristics of fats and oils was needed and that the attention of the Codex Committee on Methods of Analysis and Sampling should be drawn to this view. In developing a sampling plan for fats and oils, that Committee should have regard to the existing plans developed by ISO, AOAC, AOCS and the British Standards Institution and to any other national methods, details of which were supplied to them.

14. The Committee agreed that the method of sampling butter set out in Standard B.1(1969) of the Code of Principles concerning Milk and Milk Products (6th Edition) had only limited relevance to margarine, as margarine usually moved in international trade in packets of 250g or less. It further agreed that this point should be drawn to the attention of the Codex Committee on Methods of Analysis and Sampling so that that Committee might consider whether any additional provisions were required for margarine.

Olive Oils (Step 7 of the Procedure)

15. The Committee had before it CODEX/FATS AND OILS/62 and CODEX/FATS AND OILS/62-Add.1. The Committee discussed the draft standard for olive oil and amended it as at Appendix II of the Report. The following points arose during the course of the discussion:

(a) Description (Olive Oil)

The Committee decided to amend the definition of olive oil so as to read: "Olive oil is the oil obtained from the fruit of the olive tree (Olea europea L.) without having been subjected to manipulation or any treatment not authorized by sub-paras (b) (i) and (ii) of this section".

(b) Essential composition and quality factors

(i) Reference to Olive Oil Index Files

The Committee had decided at its 5th session (CODEX/FATS AND OILS/REPORT V, para. 12) that a more precise form of words was necessary if there was to be a reference in the standard to the olive oil index files. The Committee had before it a revised draft prepared by the IOOC. The Committee agreed to insert the draft, with minor amendments, as a footnote to this section of the standard.

(ii) Chemical and physical indices

The Committee decided to amend the words "not applicable" in relation to the residue olive oil test for refined residue oil to read: "not relevant".

(c) Food Additives

The Committee decided:

(i) that no additives should be permitted in virgin olive oil;

(ii) that natural and synthetic alpha-tocopherol should be permitted in refined olive oil, refined residue olive oil and in blends and mixtures of these oils with virgin olive oils up to a maximum limit of 200 mg/kg in order to restore the natural tocopherol content of the oil.

The Committee agreed to ask the Codex Alimentarius Commission to accept the endorsement of tocopherols by the Codex Committee on Food Additives for fats and oils in general as applying equally to olive oils other than virgin olive oils, so that it would not be necessary to hold up the standard whilst a further specific endorsement was obtained from the Codex Committee on Food Additives.

(d) Contaminants

(i) Pesticide Residues

The Committee decided not to include any provision for pesticide residues in the standard. It noted that the question of pesticide residues was being dealt with by the Codex Committee on Pesticide Residues and decided to await the outcome of this work. Member Countries were asked to send to the FAO Secretariat for transmission to the Codex Committee on Pesticide Residues and to the Joint FAO/WHO Expert Committee on Pesticides any information they had on the residues found in virgin olive oils particularly in comparison with those found in refined olive oils.

(ii) Solvent Residues

The Committee decided to delete from the Contaminants Section of the standard the provisions relating to solvent residues. The Committee considered that there was no reason to treat olive oils differently from other edible oils which did not at present contain such a provision. The Committee noted that the Codex Committee on Food Additives had referred the question of solvent residues in food in general to the Joint FAO/WHO Expert Committee on Food Additives for consideration and decided that it would be better to await the outcome of this consideration before including any provisions relating to solvent residues in the olive oil standard.

(e) Labelling

The Committee agreed that the provisions of the Recommended General Standard on Labelling, which was approved by the Codex Commission at its Sixth Session, should apply to the olive oil standard subject to the points made below:

(i) Country of origin

The Committee decided that there was no reason to treat olive oils differently from other oils, or to modify the provisions of the General Standard in respect of them.

(ii) List of ingredients

The Committee decided that, since the only additives to be permitted were natural and synthetic alpha-tocopherol in an amount sufficient only to restore the natural tocopherol lost in processing (subject to a maximum of 200 mg/kg), it was not necessary to require a declaration of ingredients. The delegate of the USA opposed this decision and considered that the addition of tocopherol should be declared on the label.

(iii) Net contents

The Committee noted that, in the case of large containers of oils, sales sometimes took place by weight, but sales of small containers by retail were generally by volume. The Committee did not consider there was any reason to include a different provision for olive oils than for other fats and oils and agreed not to include a different provision from that contained in the General Labelling Standard.

(f) Methods of analysis and sampling

(i) The observer from IOOC pointed out that the Note at the end of the method of analysis for determining the presence of tea oil (CODEX/FATS AND OILS/40, page 37) was not accurate. He proposed that it should read:

"Note

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

The Committee decided to accept this amendment and to draw it to the attention of the Codex Committee on Methods of Analysis and Sampling.

(ii) The delegate of France drew attention to the need to clarify the method for determining the Specific Extinction in Ultra-Violet and, in particular, the importance of establishing a specification for the alumina used. Other delegates and the observer from the IOOC supported this view. The Committee agreed to draw this matter to the attention of the Codex Committee on Methods of Analysis and Sampling.

(iii) The delegate of the USA considered that it might be desirable to elaborate a method of analysis for the determination of the presence of tocopherol in olive oil.

16. The Committee decided that the standard should be advanced to Step 8 of the Procedure for the Elaboration of World-wide Standards. It wished to place on record its appreciation of the assistance and advice it had received from the IOOC in the elaboration ot the Standard and of the close collaboration between the two organizations.

Discussion on solvents used for the extraction of fats and oils

17. The Committee had before it CODEX/FATS AND OILS/60, CODEX/FATS AND OILS/62, CODEX/FATS AND OILS/66 and CL 1969/38. The Committee was informed that member governments had been asked for information on the use of solvents, specifications of purity, extraction residues and appropriate methods of analysis. This information had not yet been received and the Committee did not consider that any decisions could be made on the provisions required on solvents in advance of the receipt and study of this information.

18. The Committee agreed that its Secretariat should prepare a paper on solvents residues for fats and oils based on the information submitted by Member Countries in response to CL 1969/38. This report would be considered by the Codex Committee on Food Additives and the Joint FAO/WHO Expert Committee on Food Additives. A further circular would be sent to Member Countries notifying them of a revised closing date for receipt of information.

Mustardseed Oil at Step 8 of the Procedure

19. The Committee considered the Draft Standard for Mustardseed Oil and amended it as at Appendix III of this report. The following points emerged :

(a) Method of analysis for Allyl isothiocyanate

The Committee agreed that the method of analysis, which was reproduced in extenso in CODEX/FATS AND OILS/63 was suitable and sent it to the Codex Committee on Methods of Analysis and Sampling for endorsement.

(b) Labelling

The Committee agreed that the labelling provisions of this standard should be brought into line with those contained in the other Codex standards for other edible oils.

20. The Committee decided that the standard should be advanced to Step 8 of the Procedure for the Elaboration of World-wide Standards.

Revised Identity Characteristics for Fats and Oils based on Gas-liquid Chromatography

21. The Committee had before it CODEX/FATS AND OILS/64, CODEX/FATS AND OILS/64-Add.1 and CODEX/FATS AND OILS/64-Add.2. After a full discussion the Committee decided :

(a) that the values proposed by the delegate of the USA in Appendix XVI of CODEX/FATS AND OILS/REPORT V and those for mustardseed oil in CODEX/FATS AND OILS/64 should be sent to Member Countries, with the Codex standards, on an advisory basis only. The values are set out in Appendix IV to this report;

(b) that the comments already received on values proposed by the delegate of the USA should be collated and circulated to Member Countries;

(c) to ask Member Countries and interested international organizations to submit information about the values found in commercial samples of fats and oils obtained from all producing and importing countries and on the methods of analysis used to determine these values to the Committee's Secretariat by not later than 31 December 1971;

(d) that these comments should include an indication whether it would be desirable to have two sets of values, namely normal ranges, which were thought by some delegates to be of more practical value, and extreme ranges;

(e) that the Committee should have all these comments before it at its next meeting so as to consider whether or not identity characteristics based on gas-liquid chromatography should then be included in the standards on a mandatory basis;

(f) that it was desirable that collaborative studies should continue to be undertaken by IUPAC, AOCS and other interested international organizations so as to arrive at an internationally agreed method of analysis.

Future work

22. The Committee considered under the Agenda Item "Any other Business", an oral statement by the Chief of the Food Standards Programme that he had received a number of requests from developing countries that standards should be developped for coconut, palm and palm kernel oils which were important to the economy of developing countries and were also becoming of increasing importance in international trade. Certain Member Countries had also raised the question of standards for marine oils.

23. The Committee decided that Member Countries interested in the development of standards for coconut, palm and palm kernel oils should submit comments, including the information required by the Commission's Criteria for the Establishment of Work Priorities (Procedural Manual, 2nd Edition) and as far as practicable proposals for the provisions to be included in the standard, including identity characteristics based both on traditional methods and on gas-liquid chromatography. Member Countries who wished to suggest that standards should be elaborated for any other vegetable oil not already covered by Codex standards would need to supply all the information required by the Commission's Criteria for the Establishment of Work Priorities as well as any proposals on provisions to be included in any draft standards. This information should be supplied to the Committee's Secretariat if possible not later than 30 June 1970.

24. The Committee's Secretariat should prepare a paper which might include drafts of standards in the light of the comments received. It should then consider, together with the FAO Secretariat, whether the paper should be put before the Commission or the next session of the Committee.

25. The Committee did not consider that it would be reasonable to attempt to elaborate standards for marine oils because these oils were not consumed as such and because the range of identity characteristics for individual marine oils were so wide as to make it extremely difficult, if not impossible, to distinguish between them. Any Member Country wishing to propose a standard for development should make a formal request to the Committee's Secretariat including the information required by the Commission's Criteria for the Establishment of Work Priorities and also a draft of a possible standard.

Date of next meeting

26. The Committee considered that, if no business was referred to it by the 7th session of the Codex Alimentarius Commission, there would be no need for a session in 1970 and it should therefore adjourn sine die. It would be necessary to hold a further session to consider the question of values based on gas-liquid chromatography. The standards that had been adopted would also need to be reviewed after a reasonable period and the Committee might have to consider proposals received to develop further standards. The Committee agreed that a further session for this purpose and to consider other relevant developments, should be held not later than the end of 1973, unless unforeseen circumstances arose which made a postponement desirable.

Appreciation

27. The Committee expressed its gratitude to the Spanish Government for inviting the Committee to hold its session in Madrid and for the excellent facilities provided.

Summary of work to be undertaken

28. Standards sent to the Codex Alimentarius Commission at Step 8 of the Procedure

Olive Oils (Appendix II)
Mustardseed Oil (Appendix III)

29. Information to be supplied by Governments and Organizations

(a) Denmark to submit a note on the technological need for esters of glycerol and thermally oxidized soy-bean fatty acids to the Secretariat of the Committee (paragraph 8(b)(iv);

(b) USA to submit a more detailed statement of the technological performance of 4-hydroxymethyl-2, 6-di-tert-butylphenol to the Committee's Secretariat; information on identity, purity and toxicology of the additive to the Committee's Secretariat and to FAO Secretariat (paragraph 9(c)(i));

(c) on pesticide residues in olive oils to the FAO Secretariat (paragraph 15(d)(i));

(d) GLC values for commercial samples of fats by stated methods to Committee's Secretariat by 31st December 1971 (paragraph 21(c));

(e) on need to develop standards for coconut, palm and palm kernel oils by 30th June 1970 to Committee's Secretariat (paragraph 23);

(f) on need to develop standards for any other vegetable oils to Committee's Secretariat by 30th June 1970 (paragraph 23).

30. Questions referred to the Codex Committee on Methods of Analysis and Sampling

(a) method of analysis for water content of margarine (paragraph 8 (c));

(b) the views of the Committee on the applicability of the Statistical Sampling Plans for Prepackaged Foods (ALINORM 69/27) to fats and oils (paragraphs 10-12);

(c) the views of the Committee on the applicability of the Provisional Standard for the Technical Procedure for Sampling Foods (ALINORM 69/23, Appendix VI) to fats and oils (paragraphs 13 and 14);

(d) an amendment to the Note to the method of analysis for determining the presence of tea oil (CODEX/FATS AND OILS/40) (paragraph 15(f)(i));

(e) method of analysis for determining the specific Extinction in Ultra-Violet (paragraph 15 (f)(ii));

(f) method of analysis for determining the allyl isothiocyanate content of mustardseed oil (CODEX/FATS AND OILS/63) (paragraph 19(a)).

31. Work to be undertaken by the Committee's Secretariat

(a) paper stating the criteria to be taken into account in assessing the technological need for additives (paragraph 9(b));

(b) paper on solvent residues for fats and oils. Further circular letter to be sent out by FAO Secretariat (paragraph 18);

(c) comments already received on GLC identity characteristics put forward by the USA to be collated and circulated (paragraph 21(b));

(d) paper on standards for coconut, palm and palm kernel or any other vegetable oils (paragraph 24);

32. Questions referred to the Codex Alimentarius Commission

Endorsement of natural and synthetic alpha-tocopherol in olive oils (paragraph 15(c)).

33. Questions referred to the Secretariat of the Codex Alimentarius Commission

Revised wording concerning flavours in the standard for margarine; the standards for the other vegetable oils at Step 9; and for mustardseed oil at Step 8 (paragraphs 8(a) and 9(a));

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Madrid, 17-20 November 1969

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DRAFT STANDARD FOR OLIVE OIL, VIRGIN AND REFINED, AND FOR REFINED RESIDUE OLIVE OILS

(Step 8 of the Procedure)

I. SCOPE

The standard applies to virgin olive oil, refined olive oil and refined residue olive oil and blends and mixtures thereof. Refined olive oil may be marketed alone or blended with virgin olive oil; refined residue olive oil may be marketed alone or mixed with virgin olive oil.

II. DESCRIPTION

(a) Olive oil is the oil obtained from the fruit of the olive-tree (Olea europaea L.) without having been subjected to manipulation or any treatment not authorized by sub-paragraphs (b)(i) and (ii) of this Section.

(b)(i) 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.

(ii) 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.

(c) refined residue olive oil is the oil obtained from "olive residues" 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.

III. ESSENTIAL COMPOSITION AND QUALITY FACTORS 1/

(a) Identity Characteristics (under normal ecological conditions)

(i) Fatty acid composition - MA1

	Range (per cent by weight)
Oleic acid	56.0 - 83.0
Palmitic acid	7.5 - 20.0
Linoleic acid	3.5 - 20.0
Stearic acid	0.5 - 3.5
Palmitoleic acid	0.3 - 3.5
Linolenic acid	0.0 - 1.5
Myristic acid	0.0 - 0.05
Arachidic acid)	
Behenic acid)	
Gadoleic acid)	minute amounts only
Lignoceric acid)	
Erucic acid)	not present in
Lauric acid)	discernible amounts

1/ The limits of essential composition 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 the fatty and composition for the various grades of virgin olive oils produced in each olive-growing area, determined at the various periods of each olive crop year and also after eight months' normal preservation of these oils are published yearly in each producing country's 'National Olive Oil Index File'. These files may be obtained on application to the IOOC Secretariat (Juan Bravo, 10, Madrid 6-Spain).

(ii) Chemical and physical indices

		Virgin olive oil	Refined olive oil	Refined Residue olive oil
Density ($20^{o}C$/water at $20^{o}C$)	-MA2	0.910-0.916	0.910-0.916	0.910-0.916
Refractive index ($_{n}20^{o}C_{D}$)	-MA3	1.4677-1.4705	1.4677-1.4705	1.4680-1.4707
Iodine value (Wijs)	-MA4	75-94	75-94	75-92
Saponification value	-MA5	184-196	184-196	182-193
Unsaponifiable matter (using light petroleum)	-MA6	maximum 1.5% (by weight)	maximum 1.5% (by weight)	maximum 2.5% (by weight)
Bellier Index	-MA7	maximum 17	maximum 17	not applicable
Semi-siccative oil test	-MA8	negative	negative	negative
Residue olive oil test	-MA9	negative	negative	not relevant
Cottonseed oil test	-MA10	negative	negative	negative
Teaseed oil test	-MA11	negative	negative	negative
Sesame seed oil test	-MA12	negative	negative	negative

A characteristic feature of the unsaponifiable matter in olive oil is its content of squalene, which is higher that that of the other vegetable oils. Another distinctive feature is that its sterols are composed of practically pure-beta-sitosterol. The unsaponifiable matter of residue olive oil contains more alcoholic compounds than that of virgin or defined olive oils, and its iodine value is therefore lower than that normally noted in virgin or refined olive oils, and its fusion point is higher.

(b) Quality Characteristics

(i) Colour, Odour Taste

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

Refined residue olive 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 and Mixtures: The colour, odour and taste shall be intermediate between those of the two types blended or mixed.

	Virgin olive oil	Refined olive oil	Refined Residue olive oil
(ii) Free Acidity -MA13 Expressed as % oleic acid by weight	maximum 3.3	maximum 0.3	maximum 0.3
Expressed as Acid Value (mg.KoH per g.)	6.6	0.6	0.6
(iii) Peroxide value -MA14 (meq. of peroxide oxygen per kg.)	maximum 20	maximum 20	maximum 20

The peroxide value of blends and mixture shall not exceed 20 mq. per kg.

(iv) Specific Extinction in Ultra-violet ($E^{1\%}_{1cm}$) -MA15

	Virgin olive oil	Refined olive oil	Refined Residue olive oil	Blends of virgin and refined olive oil	Mixtures of virgin and refined residue olive oils
$E^{1\%}_{1cm}$, maximum at 232 nm.	3.5	-	6.0	-	5.50
$E^{1\%}_{1cm}$, maximum at 270 nm.	0.25	1.10	2.00	0.90	1.70
Δ E, maximum variation at near 270 nm.	*	0.16	0.20	0.15	0.18

* Oils having a specific extinction at 270 nm. exceeding 0.25 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.

IV. FOOD ADDITIVES

(a) Virgin olive oils — None permitted

(b) Refined Olive Oils, Refined Residue Olive Oils and blends and mixtures of these oils with virgin olive oils

- Natural and synthetic alpha-tocopherol is permitted for the purpose of restoring natural tocopherol lost in processing — 200 mg/kg max.

V. CONTAMINANTS

The following provisions in respect of contaminants have been endorsed by the Codex Committee on Food Additives.

		Virgin olive oil	Refined olive oil	Refined Residue olive oil
Matter volatile at 105°C (% by weight, maximum)	-MA16	0.2	0.1	0.1
Insoluble impurities (% by weight, maximum)	-MA17	0.1	0.05	0.05
Soap Test	-MA18*	not applicable	negative	negative

* Not applicable to blends on mixtures with virgin olive oil

VI. 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 of the Codex Alimentarius.

VII. LABELLING

In addition to Sections 1, 2, 4, 5 and 6 of the General Standard for the Labelling of Prepackaged Foods (Ref. No. CAC/RS 1-1969) the following specific provisions apply:

1. The Name of the Food

(i) All products designated as olive oil must conform to the provisions of this standard for virgin olive oil or refined olive oil and must be either virgin olive oil or a blend of virgin and refined olive oil.

(ii) All products designated as virgin olive oil must conform to the provisions for virgin olive oil in this standard.

(iii) All products designated as refined olive oil must conform to the provisions for refined olive oil.

(iv) All products designated as refined residue olive oil must conform to the provisions for refined residue olive oil.

(v) Refined olive oil must not be described as olive oil without qualification, but always as refined residue olive oil.

(vi) Mixtures of refined residue olive oil and virgin olive oil must be described as refined residue olive oil and olive oil.

2. Net Contents

The net contents shall be declared by volume in either the metric ("Système International" units) or avoirdupois or both systems as required by the country in which the product is sold.

3. Name and Address

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

4. Country of Origin

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

4.2 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.

VIII. METHODS OF ANALYSIS

The methods of analysis and sampling described hereunder are international referee methods which have been endorsed by the Codex Committee on Methods of Analysis and Sampling.

DRAFT STANDARD FOR EDIBLE MUSTARDSEED OIL

(Step 8 of the Procedure)

I. DESCRIPTION

Mustardseed oil is derived from the seeds of the white mustard (Sinapis alba L. synonym: Brassica hirta Moench), the brown mustard (Brassica juncea (L.) Czern. and Coss) and of the black mustard (Brassica nigra (L.) Koch).

II. ESSENTIAL COMPOSITION AND QUALITY FACTORS

(a) Identity Characteristics

		Range
(i)	Relative Density ($20^{\circ}C$/water at $20^{\circ}C$)	: 0.910–0.921
(ii)	Refractive Index ($n_D^{40^{\circ}C}$)	: 1.461–1.469
(iii)	Saponification Value (mg. KOH per g. oil)	: 170–184
(iv)	Iodine Value (Wijs)	: 92–125

		Maximum level
(v)	Unsaponifiable Matter	1.5% by weight

(b) Allyl isothiocyanate content

Maximum level
0.4% by weight

As determined by the method specified in Section VII of the standard.

(c) Quality Characteristics

(i) Colour

Characteristics of the designated product.

(ii) Odour and Taste

Characteristics of the designated product and free from foreign and rancid odour and taste.

(iii) Acid Value

	Maximum level (mg. KOH per g.)
Virgin oil:	4.0
Non-virgin oil:	0.6

(iv) Peroxide Value

Maximum level (meq. of peroxide oxygen per kg.)
10.0

III. FOOD ADDITIVES

The following provisions in respect of food additives have been endorsed by the Codex Committee on Food Additives, unless otherwise indicated, but these provisions do not apply to virgin oils, which shall not contain any additives.

(a) Colours

The following are permitted:

		Maximum level of use
(i)	Beta-carotene	not limited
(ii)	Annatto	not limited
(iii)	Curcumin	not limited
(iv)	Canthaxanthine	not limited
(v)	Beta-apo-8-carotenal	not limited
(vi)	Methyl and ethyl esters of Beta-apo-8-carotenoic acid	not limited

(b) Flavours

The following are permitted:

	Maximum level of use
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.	not limited

(c) Antioxidants

		Maximum level of use
(i)	Propyl-, octyl-, and dodecyl gallates.	100 mg/kg individually or in combination
(ii)	BHA, BHT	200 mg/kg individually or in combination
(iii)	Any combination of gallates with BHA or BHT, or both	200 mg/kg, but gallates not to exceed 100 mg/kg

	Maximum level of use
(iv) Ascorbyl palmitate	200 mg/kg
(v) Natural and synthetic tocopherols	not limited
(vi) Ascorbyl stearate	200 mg/kg
(vii) Dilauryl thiodipropionate	200 mg/kg

(d) Synergists	Maximum level of use
(i) Citric acid	not limited
(ii) Sodium citrate	not limited
(iii) Monoisopropyl citrate)	100 mg/kg individually or in combination
(iv) Monoglyceride citrate)	
(v) Phosphoric acid)	

(e) Anti-foaming Agents	Maximum level of use
The following are permitted:	
(i) Dimethyl polysiloxane (Syn: Dimethyl silicone)	10 mg/kg
(ii) Mixtures of dimethyl polysiloxane and silicon dioxide	10 mg/kg

(f) Crystallisation Inhibiter	Maximum level of use
Oxystearin	0.125% by weight

IV. CONTAMINANTS

The following provisions in respect of contaminants have been endorsed by the Codex Committee on Food Additives, unless otherwise indicated.

	Maximum level
Matter volatile at 105°C	0.2% by weight
Insoluble impurities	0.05% by weight
Soap content	0.005% by weight
Iron (Virgin Oil	5.0 mg/kg
(Refined Oil	1.5 mg/kg
Copper (Virgin Oil	0.4 mg/kg
(Refined Oil	0.1 mg/kg
Lead	0.1 mg/kg
Arsenic	0.1 mg/kg

V. HYGIENE

It is recommended that the product covered by the provisions of this standard be prepared in accordance with the appropriate Section of the General Principles of Food Hygiene of the Codex Alimentarius.

VI. LABELLING

In addition to Sections 1, 2, 4, 5 and 6 of the General Standard for the Labelling of Prepackaged Foods (Ref. No. CAC/RS 1-1969) the following specific provisions apply:

1. The Name of the Food

   (a) All products designated as mustardseed oil must conform to this standard.

   (b) Where mustardseed oil has been subjected to any process of esterification or to processing which alters its fatty acid composition or its consistency, the name mustardseed oil shall not be used unless qualified to indicate the nature of the process.

2. List of Ingredients

   A complete list of ingredients shall be declared on the label in descending order of proportion in accordance with sub-section 3.2(c)(ii) of the General Standard for the Labelling of Prepackaged Foods.

3. Net Contents

   The net contents shall be declared by volume in either the metric ("Système International" units) or avoirdupois or both systems as required by the country in which the product is sold.

4. Name and Adress

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

5. Country of Origin

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

   (b) 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 purpose of labelling.

VII. METHODS OF ANALYSIS AND SAMPLING

The Methods of Analysis and Sampling described hereunder are international referee methods which have been endorsed by the Codex Committee on Methods of Analysis and Sampling, unless otherwise indicated.

(a) Allyl isothiocyanate content (to be endorsed)

Indian Standard: 548 - 1964 (See CODEX/FATS AND OILS/63).

Appendix IV

FATTY ACID COMPOSITION BY GAS-LIQUID CHROMATOGRAPHY
(Percent by weight of methyl esters)

PROPOSED RANGES

Fatty acid	Symbol	Arachis oil	Cotton-seed oil	Maize oil	Rapeseed oil	Safflower seed oil	Sesame seed oil	Soya bean oil	Sunflower seed oil	Lard and rendered pork fat	Premier jus and edible tallow	Mustard-seed oil
Sat. acids												
<14 C atoms	<14:0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<0.5
Myristic acid	14:0	<1.0	0.5-2.0	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	0.5-2.5	1.0-8.0	<1.0
Palmitic acid	16:0	6-14	17-29	8-19	0.5-5.0	2-10	7-12	7-12	3-10	20-32	23-37	0.5-4.5
Stearic acid	18:0	2.0-6.5	1.0-4.0	0.5-4.0	0.5-3.0	1.0-6.0	3.5-6.0	2.0-5.5	1-10	5-18	6-30	0.5-3.0
Arachidic acid	20:0	1.0-2.0	<0.5	<1.0	<1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.5
Behenic acid	22:0	2.0-4.0	-	-	<1.5	<1.0	<1.0	<0.5	<1.0	<0.5	-	0.2-2.5
Lignoceric acid	24:0	1.0-2.0	-	-	<2.0	-	-	-	-	-	-	<0.5
Palmitoleic acid	16:1	<1.0	0.5-1.5	<1.0	<1.0	<0.5	<0.5	<0.5	<1.0	2.0-5.0	1.5-6.0	<1.0
Oleic acid	18:1	40-72	13-44	19-50	9-40	7-42	35-50	20-50	14-72	35-62	36-50	8.0-23.0
Linoleic acid	18:2	13-38	33-58	34-62	11-29	55-80	35-50	35-65	20-75	3-16	0.5-5.0	10.0-24.0
Linolenic acid	18:3	<0.5	<0.5	<1.0	5-12	<3.0	<1.0	2-13	<0.5	<2.0	<1.0	6.0-18.0
Eicosenoic acid	20:1	0.5-1.5	<0.5	<0.5	5-15	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	4.0-13.0
Erucic acid	22:1	-	-	-	30-60	-	-	-	-	-	-	22.0-49.0
Docosadienoic acid	22:2	-	-	-	<1.0	-	-	-	-	-	-	<1.0
Arachidonic acid	20:4	-	-	-	-	-	-	-	-	<1.0	<0.5	-
Pentadecanoic acid	15:0	-	-	-	-	-	-	-	-	-	0.5-1.0	-
Heptadecenoic acid	17:0	-	-	-	-	-	-	-	-	-	0.5-2.0	-
Tetracosenoic acid	24:1											0.5-2.5