

# codex alimentarius commission



FOOD AND AGRICULTURE  
ORGANIZATION  
OF THE UNITED NATIONS

WORLD  
HEALTH  
ORGANIZATION



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**ALINORM 07/30/17**

## **JOINT FAO/WHO FOOD STANDARDS PROGRAMME**

### **CODEX ALIMENTARIUS COMMISSION**

Thirtieth Session  
Rome, Italy, 2-7 July 2007

### **REPORT OF THE TWENTIETH SESSION OF THE CODEX COMMITTEE ON FATS AND OILS**

London, United Kingdom  
19-23 February 2007

**Note:** This document incorporates Codex Circular Letter 2007/8-FO

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CX 5/15.2

CL 2007/8-FO  
February 2007

**TO:** - Codex Contact Points  
- Interested International Organizations

**FROM:** -Secretary, Codex Alimentarius Commission, Joint FAO/WHO Food Standards Programme, FAO, 00100 Rome, Italy

**SUBJECT:** Distribution of the Report of the 20<sup>th</sup> Session of the Codex Committee on Fats and Oils (ALINORM 07/30/17)

**A. MATTERS FOR ADOPTION BY THE 30<sup>th</sup> SESSION OF THE CODEX ALIMENTARIUS COMMISSION**

**Draft Standard at Step 8 of the Procedure**

1. Draft Standard for Fat Spreads and Blended Spreads (para. 62, Appendix II)

Governments wishing to propose amendments or comments on the above documents should do so in writing in conformity with the Guide to the Consideration of Standards at Step 8 (see Procedural Manual of the Codex Alimentarius Commission) to the Secretary, Codex Alimentarius Commission, Joint FAO/WHO Food Standards Programme, at the above address, preferably by E-mail, **before 30 April 2007**.

**B. REQUEST FOR COMMENTS AND INFORMATION**

**Code of Practice for the Storage and Transport of Edible Fats and Oils in Bulk: Draft and Proposed Draft Provisions**

2. Proposed Draft Criteria to Assess the Acceptability of Substances for Inclusion in a List of Acceptable Previous Cargoes (para. 31, Appendix III)

3. Draft List and Proposed Draft List of Acceptable Previous Cargoes in the Code of Practice for the Storage and Transport of Edible Fats and Oils in Bulk (para. 90, Appendix IV)

Governments and international organizations are invited to provide comments and proposals as mentioned in paragraph 88. Comments are not requested on the introduction to the Lists.

**Standard for Named Vegetable Oils: Draft and Proposed Draft Amendments**

4. Draft Amendment to the Standard for Named Vegetable Oils: Inclusion of Rice Bran Oil (para. 74, Appendix V)

Governments and international organizations are invited to comment especially on the values in square brackets and to provide the following data and information:

- the trade volumes on international market (export); and
- the origin and importance of samples analysed (industrial batch, commercial oil, number of batches, number of samples per batch), their nature (crude or processed, oil extracted in a laboratory from a raw material) and the methods of analysis used to analyse the samples.

5. Proposed Draft Amendment to the Standard for Named Vegetable Oils: Total Carotenoids in Unbleached Palm Oil (para. 80, Appendix VI)

**Standard for Olive Oils and Olive Pomace Oil: Proposed Draft Amendment**

6. Proposed Draft Amendment to the Standard for Olive Oils and Olive Pomace Oils (para. 107-108, Appendix VII)

Governments and international organizations wishing to submit comments on points 2. to 5. above should do so in writing to the Secretary, Codex Alimentarius Commission, Joint FAO/WHO Food Standards Programme, at the above address, preferably by E-mail, **before 1 December 2007.**

## SUMMARY AND CONCLUSIONS

The summary and conclusions of the 20th Session of the Codex Committee on Fats and Oils are as follows:

### **Matters for adoption by the Commission:**

#### **The Committee:**

- agreed to advance to Step 8 the Draft Standard for Fat Spreads and Blended Spreads (para. 62, Appendix II);
- agreed to propose new work on the amendment to the Standard for Named Vegetable Oils to include palm kernel olein and stearin (para. 113).

### **Other Matters of Interest to the Commission**

#### **The Committee:**

- agreed to return to Step 6 the Draft Amendment to the Standard for Named Vegetable Oils: Inclusion of Rice Bran Oil (para. 74, Appendix V);
- agreed to return the Draft and Proposed Draft Lists of Acceptable Previous Cargoes respectively to Step 6 and 3 for comments and consideration at the next session (para. 90, Appendix IV), and to circulate at Step 3 the Proposed Draft Criteria to Assess the Acceptability of Substances for Inclusion in a List of Acceptable Previous Cargoes (para. 31, Appendix III);
- agreed to return to Step 3 (Accelerated Procedure) the Proposed Draft Amendment to the Standard for Named Vegetable Oils: total carotenoids in unbleached palm oil (para. 80, Appendix VI);
- agreed to circulate at Step 3 the Proposed Draft Amendment to the Standard for Olive Oils and Olive Pomace Oils on the level of linolenic acid and related footnote (para. 107-108, Appendix VII).
- agreed to consider further at its next session the proposal for future work on the composition and naming of fatty acid modified vegetable oils (para.130-131).

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## INTRODUCTION

1) The 20<sup>th</sup> Session of the Codex Committee on Fats and Oils (CCFO) was held in London from 19-23 February 2007 at the kind invitation of the Government of the United Kingdom. The Session was chaired by Mr Michael Wight, Head of Labelling, Standards and Allergy Division, Food Standards Agency. It was attended by 125 participants from 40 Member countries, one Member organization and 4 international organisations. The List of Participants is attached to this report as Appendix I.

## OPENING OF THE SESSION

2) The session was opened by the Dame Deirdre Hutton CBE, Chair of the Food Standards Agency, who welcomed the participants to the last meeting of the CCFO to be held in the United Kingdom and wished the success of the meeting in reaching consensus on the pending issues of the Committee. Dame Deirdre stressed the importance of Codex work in order to protect consumers' health while ensuring fair trade practices, recalling the continuous support of the United Kingdom to Codex and highlighting the experience of the Food Standards Agency at the National Level.

## ADOPTION OF THE AGENDA<sup>1</sup> (Agenda Item 1)

3) The Committee adopted the Provisional Agenda as proposed in CX/FO 06/20/1 with the understanding that Agenda Item 6 would be considered right after Agenda Item 2 b) because these agenda items were linked. The Committee also noted the proposals by Australia and Syria to initiate amendments to the Standard for Olive Oils and Olive Pomace Oils and agreed to consider these proposals under Agenda Item 10.

4) It also decided to establish the following working group and defer the discussion under Agenda Item 3 until the working group reported back to the plenary.

- Working Group on the Food Additives Section for the Draft Standard for Fat Spreads and Blended Spreads chaired by the United States to provide recommendations to the Committee in light of the Report of the Electronic Working Group and country comments.

5) The Delegation of the European Community informed the Committee of the division of competence between the European Community and its Member States according to paragraph 5, Rule II of Procedure of the Codex Alimentarius Commission.

## MATTERS ARISING FROM THE CODEX ALIMENTARIUS COMMISSION AND OTHER CODEX COMMITTEES (Agenda Item 2 a)<sup>2</sup>

6) The Committee noted the matters referred by the 28<sup>th</sup> and 29<sup>th</sup> Sessions of the Codex Alimentarius Commission, in particular, the proposals of the 57<sup>th</sup> Session of the Executive Committee in respect of the critical review process<sup>3</sup> and agreed to consider the timeframe of ongoing work at the end of the discussion of each agenda item.

7) The Committee noted that the method for the determination of milk fat content for the Draft Standard for Fat Spreads and Blended Spreads had been endorsed by the 26<sup>th</sup> Session of the Codex Committee on Methods and Analysis (CCMAS). The Committee further noted that it was asked by CCMAS to clarify the applicability of the proposed method for the determination of water, solids-non fat and fat content to fat spreads. The Committee decided to entrust the issues raised by CCMAS to the Working Group on Methods of Analysis chaired by the United Kingdom, which would also consider any other matters regarding methods of analysis under consideration by the Committee, including the methods of analysis for rice bran oil.

8) The Committee was informed that the proposal to amend several names of oils and botanical names of original seeds in Section 2.1 of the Codex Standard for Named Vegetable Oils, which had been presented

<sup>1</sup> CX/FO 07/20/1; CRD 1 (Provisional Annotated Agenda: Division of Competence between the European Community and its Member States according to Rule of Procedure II Paragraph 5 of the Codex Alimentarius Commission)

<sup>2</sup> CX/FO 07/20/2

<sup>3</sup> ALINORM 06/29/41, para. 8; ALINORM 06/29/3, paras 64-65

by ISO during the last session, had been withdrawn by ISO and therefore was not included in the agenda items.

**MATTERS ARISING FROM FAO AND WHO: FAO/WHO TECHNICAL MEETING ON THE DEVELOPMENT OF CRITERIA FOR ACCEPTABLE CARGOES (Agenda Item 2b)<sup>4</sup>**

9) The FAO Representative, speaking on behalf of FAO and WHO, introduced CX/FO 07/20/2, Add 1. and referred delegates to the FAO/WHO report of the Technical Meeting on the Development of Criteria for Acceptable Previous Cargoes. Reference was also made to CRD 2, submitted by WHO asking the Committee to consider referring the proposed criteria and the FAO/WHO report to CCCF.

10) The Committee was informed of the steps taken jointly by both Organizations and with the collaboration of the National Institute for Public Health and the Environment (RIVM) to provide the scientific advice requested by the 19<sup>th</sup> Session of CCFO. These steps included the preparation of a background paper based on information submitted in reply to a specific call for data as well as relevant information from previous CCFO sessions. The paper was then initially discussed by a group of experts selected by FAO and WHO through an electronic working group, who subsequently developed the criteria during a technical meeting, held in Bilthoven, the Netherlands, 7 -9 November 2006.

11) The FAO Consultant, Dr. Wim Mennes, presented the criteria to the Committee outlining the basis and justification used by the experts to arrive at the proposed criteria.

12) The Committee was advised that the criteria were developed for the transportation of previous cargoes and fats and oils in sea-going vessels. The criteria focussed on safety aspects only as quality aspects are covered by Codex specifications. The criteria are generic in nature as it was considered impractical to develop specific criteria for any possible combination of previous cargo, type of tank construction, cleaning regime and further processing of the subsequent fat or oil cargo.

13) Fundamental to the Criteria was the estimation of a worst-case contamination of a fat or oil from a previous cargo. This worst-case estimate was based on the assumption of proper tanker cleaning and maintenance (Criterion 1). Taking into account various types of tanks, the Technical Meeting concluded that a worst-case estimate of possible contamination would be 100 mg previous cargo/kg fat or oil. Taking into account the intake figures from the WHO Global Environment Monitoring System (GEMS) cluster diets for the consumption of fats and oils, the highest figure of intake for one single type of fat / oil per day was considered. Also taking into account higher caloric intake of children and potential specific single high intakes, it was calculated that the exposure to any previous cargo would be a maximum of 0.1 mg/kg bw/day. Based on this, it was recognized by the experts that a previous cargo should have an ADI or TDI of at least 0.1 mg/kg bw/day to avoid possible health concerns. Substances for which a numerical ADI/TDI cannot be derived or is not available should be evaluated on a case by case basis (Criterion 2).

14) In addition, the Technical Meeting advised not to accept any allergenic substance as a previous cargo, as a threshold cannot be readily determined, and in sensitized persons, allergenic responses may be triggered by much lower levels of exposure than indicated by the ADI/TDI (Criterion 3).

15) In the unlikely event that previous cargoes would react chemically with the subsequent cargo of fats and oils, this previous cargo will only be acceptable, where the reaction products are compliant with Criteria 2 and 3 (Criterion 4).

16) In concluding the FAO Representative encouraged the Committee to consider the proposed criteria, with a view to advancing the CCFO work on this matter and eventually finalising the Recommended Code of Practice. The delegates were invited to make comments on the FAO/WHO report and request any further clarification on the proposed criteria.

17) Several delegations expressed their appreciation to FAO/WHO for the work undertaken, seeking at the same time clarification on specific issues. A brief description of the discussion is presented below.

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<sup>4</sup> CX/FO 07/20/2-Add.1, CRD 4 (comments of the EC)

### Scope of the application of the FAO/WHO proposed criteria

18) The proposed criteria were developed primarily for the carriage of edible fats and oils by sea. The Technical Meeting noted that in the absence of national regulations, the criteria may also be applicable to inland shipment in road or rail tankers.

### Application of the proposed criteria to second or third previous cargoes or only the immediate previous cargo

19) The second previous cargo dilutes any possible residue from the third cargo, while the immediate previous cargo would dilute the possible residue from the second cargo, hence the worst case exposure estimate based on the highest possible residue of 100 mg/kg would be sufficient to cover all previous cargoes.

### Use of ADI or TDI instead of Acute Reference Dose for the evaluation of possible once in a lifetime exposure

20) The Technical Meeting considered that daily exposure throughout the life would indeed be extremely unlikely. However, it could not be excluded that repetition of exposure could occur. For example, chemical industries in the geographical area of a fats and oils loading site may use a limited number of different chemicals (as previous cargoes), which would increase the chance of repeated exposure to a particular substance.

### The basis of deciding what is an allergen

21) The Technical Meeting concluded that if JECFA has noted the allergenicity of a substance, that substance should not be considered acceptable as a previous cargo. In response to a question on the allergenicity of refined oils, the FAO consultant used as an example peanut oil and indicated that normally it was traded as a refined product and could therefore be considered as an acceptable previous cargo.

### Effect of possible products of degradation of previous cargoes in the oil

22) Any possible degradation products should also be diluted and removed by the tank washing. Cleaning procedures would be modified if sticky or polymeric degradation products would occur. In general, degradation of a previous cargo means loss of quality of that previous cargo and may limit its use in chemical industry. Degradation could be enhanced by high temperatures during transport. However, most previous cargoes are liquid at ambient temperature and therefore do not need to be heated. Waxy or viscous substances will be heated just enough to facilitate efficient loading and unloading. Excessively high temperatures are not envisaged.

### Consistency between the proposed criteria and the criteria of NIOP and FOSFA

23) With respect to cleaning and inspection procedures, the data submitted from FOSFA, among others, describing accepted industry practices were considered by the experts and formed the basis for the criteria. NIOP criteria for establishing previous cargo lists were also considered.

### Practical application of the criteria

24) The criteria assume that accepted industry practices are complied with when shipping bulk cargoes of fats and oils. However, it may be within the competence of national authorities to monitor and verify practices within the industry.

### Possible contamination of cargoes with heavy metals from stainless steel tanks

25) The levels of heavy metals in fats and oils should be covered by other Codex provisions. Fats and oils are not considered aggressive to stainless steel thereby limiting potential leaching of heavy metals from stainless steel.

### Other issues

26) In reply to a specific question on the number of substances with an allocated ADI, the Committee was informed by the Representative of the FAO that based on an initial screening of the lists at Steps 4 and 7, approximately seven substances on each list may require further consideration.

27) The Delegation of the European Community informed the Committee that it could not take a position at this stage as the final report of the Technical Meeting had to be submitted to the European Food Safety

Authority for its opinion. Several delegations supported further work on this issue in view of its importance to ensure consumers' health protection.

28) The Delegation of Japan requested data from NIOP/FOSFA on their criteria and other relevant information from member countries to be made available for the next session.

29) The Representative of FAO informed the Committee that the FAO/WHO technical meeting had considered all available data in the development of the criteria, as submitted in response to the call for data.

30) The Delegation of the United States advised the Committee that information from NIOP may be presented through their delegation at the next session, as NIOP does not have Observer status in Codex.

31) The Chair concluded that there was an interest and general support to continue the work on the criteria. The Committee decided to circulate the Proposed Draft Criteria for comments at Step 3 through a Circular Letter and consideration at the next session, with a view to their inclusion in the Code of Practice. In the interest of progressing the work, the Chair encouraged the Committee to consider the possibility of advancing the criteria to Step 5/8 at the next session.

### **DRAFT STANDARD FOR FAT SPREADS AND BLENDED FAT SPREADS (Agenda Item 3)<sup>5</sup>**

32) The Committee recalled that its last session had finalised the provisions in the Draft Standard, with the exception of the section on additives, returned to Step 6 for redrafting by an electronic working group coordinated by the United States. The redrafted section was circulated for comments in CL 2006/39-FO.

33) The Committee considered the report of the working group held during the session and chaired by Dr Dennis Keefe (United States), with Ms Kathy Twardek (Canada) as Rapporteur. The working group had considered the Recommendations 1 to 4 of the Circular Letter and updated these recommendations in the light of the comments received. The Committee discussed the proposals put forward in CRD 14, as follows.

#### **Flavours (Recommendation 1)**

34) The Committee agreed that the section on additives would allow "Natural flavouring substances and artificial flavouring substances" under "Flavours", which was consistent with the provisions included in other Codex standards.

#### **Functional Classes (Recommendation 2)**

35) The Committee agreed that the functional classes mentioned in Recommendation 2 were technologically justified and inserted an introductory paragraph clarifying how the classes should be used in the standard.

36) The reference to "antioxidant synergists" was deleted as this is a sub-class of the antioxidants.

37) The Committee agreed to request the Committee on Food Additives to clarify whether packing gases should be considered a food additive functional class.

#### **Maximum Use Levels (Recommendation 3)**

38) The Committee amended the introductory paragraph in order to clarify the conditions of use of the additives within the functional classes.

#### Antioxidants

39) The Delegation of the European Community expressed the view that synthetic antioxidants (BHA, BHT, TBHQ and propyl gallate) were not needed in products within the scope of this standard, as such products are generally refrigerated, which allows a suitable shelf life. However, the EC recognized that in other parts of the world such products are not refrigerated and therefore in the context of the development of an international standard these additives could be included.

40) As regards tocopherols (INS 306 and 307), the Committee agreed to request the CCFA to clarify the appropriate INS numbers corresponding to the tocopherols that have been assigned an ADI by JECFA.

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<sup>5</sup> CL 2006/39-FO, CX/FO 07/20/3 (comments of Brazil, Costa Rica, European Community, Malaysia, Peru, United States), CRD 6 (comments of Indonesia), CRD 7 (comments of Japan), CRD 14 (Report of the working group)

### Colours

41) As regards annatto extracts, the Delegation of the United States informed the Committee that the 67<sup>th</sup> JECFA Session had reevaluated annatto extracts and established one ADI for bixin and a group ADI for norbixin and its sodium and potassium salts, and specifications for all extracts which are covered by the established ADIs, and tentative specifications for oil processed bixin. The reevaluation would be considered by the CCFA and it was expected that the levels of use and INS numbers would be reconsidered.

42) The Committee agreed to request the Committee on Food Additives to clarify the safe acceptable maximum use level based on recent advice from JECFA on the specifications of identity and purity and ADIs for annatto extracts. The level of 100 mg/kg was placed in square brackets pending advice from the CCFA.

43) The Committee recalled that it was its responsibility to propose levels of use on the basis of technological justification, and had an extensive discussion on the levels of use for annatto extracts and other colours. It was also recalled that technological justification should be provided in accordance with Section 3.2 of the Preamble of the General Standard for Food Additives.

44) The Delegation of the European Community expressed the view that the level of 100 for annatto extracts in fat spreads was too high and not technologically justified and that there was no technological need for Caramel Class II, III and IV. Other delegations indicated that they commonly used these colours at the levels proposed in some types of fat spreads, especially in flavoured products.

45) The Committee considered a proposal to establish two levels of use for certain colours according to the type of fat spread: a lower level for margarine and similar fat spreads, and a higher level for “flavoured” fat spreads, e.g. products with flavours such as fruit or chocolate. Some delegations supported this proposal as it would cover all possible cases but found it difficult to define precisely the type of spreads that would be covered. The Delegation of Japan objected to the establishment of two levels as it considered that there was clear technological justification for the level proposed, even for margarine type products, and that the definition of additional types of fat spreads might affect the other sections in the standard, which had been already finalised.

46) The Delegation of the United States pointed out that all additives should be used in accordance with the principle of good manufacturing practice (GMP), as described in section 3.3 of the GSFA, and even when a numerical level existed, they were used only in the amount necessary for technological purposes. The Delegation also indicated that a single level of use would be less trade restrictive.

47) After some further discussion, the Delegation of the European Community indicated that it had considered the comments of other delegations and recognised that the standard covers other products than margarine and minarine, for which it did not consider that caramel colours or high levels of annatto were needed. However the Delegation noted that other delegations had described certain specific products, especially flavoured fat spreads, in which these colours were needed, and in the interest of progressing this important standard, the EC could agree to the use of these colours, taking into account that the CCFA was requested to consider safe appropriate levels for annatto extracts.

48) The Delegation of Costa Rica, referring to its written comments, proposed to include Chlorophyll copper complexes (INS 141). As no specific level was indicated in the comments, the Delegation clarified that the level of use should be 1000 mg/kg. However, the Committee could not support this proposal as several delegations pointed out that there was no sufficient technological justification. It was also noted that additives with a numerical ADI should have numerical levels of use, unless clear justification was provided for use at a GMP level.

### Emulsifiers

49) The Delegation of the European Community indicated that, although several limitations in the conditions for use were proposed in their written comments, most of these limitations could be removed. The Committee therefore agreed that only Thermally oxidised soya bean oil interacted with mono and diglycerides of fatty acids (INS 479) would be limited to fat emulsions for frying and baking purposes.

### Other additives

50) The Committee agreed that all the other additives proposed by the working group in CRD 14 should be included in the standard.

### **Use of Additives in Table 3 of the GSFA (Recommendation 4)**

51) Several delegations supported the proposal to insert a reference allowing all additives in Table 3 of the GSFA within the functional classes mentioned under Recommendation 1. As a consequential amendment, food category 02.2.1.2 Margarine would be proposed for deletion from the Annex to Table 3 excluding certain food categories from the application of GMP level for additives with ADI “not specified”.

52) The Delegation of the European Community, while supporting the use of the additives in Table 3, expressed the view that all additives should be listed in the standard and considered by the Committee. If they were included only by reference to Table 3, changes to Table 3 might be made in the framework of the development of the GSFA without seeking the advice from the Committee as to technological justification.

53) The Delegation of the United States, supported by other delegations and the Observer from IFMA, expressed the view that there was no need to review in detail the additives allowed at GMP as there was no safety concern and their use was clearly limited by the technological function performed for a particular food. The Delegation also pointed out that the Commission had agreed that the GSFA should be the single reference point for food additives and that all additives in individual standards were subject to endorsement and incorporation into the GSFA.

54) The Secretariat recalled that the last session of the Commission had made some recommendations in order to clarify the review and amendment of food additives provisions in the GSFA and individual standards, and noted that the adoption of the food additive provisions applicable to margarine in the GSFA had been deferred by the Commission pending finalisation of the Draft Standard for Fat Spreads and Blended Spreads<sup>6</sup>.

55) After some discussion, the Delegation of the European Community maintained its position that the Committee should be involved in considering the technological need for individual food additives in products within the scope of this standard. However, it noted that CCFA should always inform other committees when developments in the GSFA may impact on products within the remit of other committees. The Delegation therefore agreed to a reference to Table 3 of the GSFA. However, it stressed the importance for the CCFO to monitor developments in the CCFA and the GSFA and make appropriate comments or proposals when necessary.

56) The Committee agreed to insert a reference to Table 3 of the GSFA within the functional classes allowed in the standard, and to recommend that CCFA delete food category 02.2.1.2 Margarine from the Annex to Table 3. The Committee agreed to forward the additives section to the CCFA for endorsement

57) The Committee expressed its thanks to Dr Keefe and to the working group for their excellent work between the sessions and at the current session, which had allowed the Committee to address complex issues in a constructive manner and to finalise the additives section.

### **Methods of Analysis and Sampling**

#### Water, Solids Non Fat, and Fat Content in Fat Spreads

58) The Chair of the working group on methods of analysis, Dr Roger Wood (United Kingdom), informed the committee that the methods referred from the CCMAS had been further considered as follows.

59) It was noted that ISO/IDF had validated a method for the determination of fat in a range of butters and fat spreads, including low fat content samples, and observed satisfactory results (ISO FDIS 17189 – 2003, IDF 194-2003, Butter, Edible oil Emulsions and Spreadable Fats, Determination of Fat Content (Reference Method)) which used a similar principle to the method temporarily endorsed by CMAS.

60) The Committee therefore agreed that, in the absence of other evidence, the methods currently “temporarily endorsed” should be forwarded to CCMAS for endorsement as Type I methods.

61) The Committee expressed its appreciation to Dr Wood and to the working group for their comprehensive work on the update of the methods of analysis on fat spreads and in other standards (see also Agenda Items 4 and 10). The update of other methods of analysis in current standards is presented under Other Business.

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<sup>6</sup> ALINORM 06/29/41, para. 42-51

### **Status of the Draft Standard for Fat Spreads and Blended Spreads**

62) The Committee, recognising that all pending issues had been satisfactorily addressed by consensus, agreed to forward the Draft Standard to Step 8 for adoption by the 30<sup>th</sup> Session of the Codex Alimentarius Commission (see Appendix II).

63) The Committee therefore proposed that the Commission should revoke the Standards for Margarine and for Minarine (CODEX STAN 32-1981 and 135-1981) as they would be superseded by the new standard.

### **DRAFT AMENDMENT TO THE STANDARD FOR NAMED VEGETABLE OILS: INCLUSION OF RICE BRAN OIL (Agenda Item 4)<sup>7</sup>**

64) The Committee recalled that the 19<sup>th</sup> Session of the Committee forwarded the Proposed Draft Amendment of the Standard to the 28<sup>th</sup> Commission for adoption at Step 5 with the understanding that several data and information would be provided to the current session of the Committee. In addition to the information provided by the members in written comments, several delegations provided data on the production and trade volume of the rice bran oil.

65) The Chair drew the attention of the Committee to the comments of India who was not present at the session.

66) While noting that there was still information lacking, the Committee considered the Draft Amendment of the Standard as contained in the Annex 1 of CL 2005/47-FO section by section and made the following amendments.

#### **Essential Composition and Quality Factors**

67) The Committee agreed to modify the ranges of some fatty acids in Table 1 of the Standard as indicated in Appendix V, while some of the proposed changes were not supported by one delegation, who pointed out that the proposed values were inconsistent with their national study and requested further information on the scientific basis of the proposals. The Committee agreed to keep those proposals in square brackets until such information was provided for consideration.

68) One delegation proposed to include a level for C26:0 in Table 1, while another delegation proposed to change the title of the table to indicate that the ranges are “approximate” in order to accommodate the variations found among different regions and varieties. However, the Committee noted that these changes would affect all the named vegetable oils in the Standard, which implied new work, and agreed not to incorporate these changes.

#### **Other Quality and Compositional Factors (Appendix to the Standard for Named Vegetable Oils)**

69) The Committee agreed to revise the new subsection to be added at the end of Section 2 “Compositional Characteristics” to read “The gamma oryzanols in crude rice bran oil should be in the range of 0.9-2.1%”. With regard to the clarification requested by one delegation whether there was a provision for the level of free fatty acids, the Committee noted that it was covered by Section 1.7 (Acid Value) of the Standard as a common provision applicable to all the named vegetable oils in the Standard.

70) The Committee agreed to revise the numerical values for crude rice bran oil to be added to Table 2 “Chemical and Physical Characteristics of Crude Vegetable Oils” of the Standard as indicated in Appendix V and to remove the footnote on relative density.

71) The Committee agreed to revise the levels of desmethylsterols of rice bran oil to be included in Table 3 of the Standard as indicated in Appendix V. With regard to the level of delta-5-avenasterol, the Committee was informed by the Working Group on Methods of Analysis that the limit of quantification of the recommended method of analysis would be 0.3% of delta-5-avenasterol in total sterols and noted that the lower limit of “ND” would correspond to this percentage according to the recommended method of analysis. The Delegation of Spain pointed out that the level of “other” desmethylsterols was significantly higher than the other named vegetable oils in the Standard and questioned what types of sterols could be included under “others”. The Committee agreed to put the upper limit of other desmethylsterols in square brackets and to

<sup>7</sup> CL 2005/47-FO; CX/FO 07/20/4 (Comments of Australia, Brazil, European Community, France, Peru and United States); CX/FO 07/20/4 - Add.1 (Comments of Japan); CRD 9 (Comments of India); CRD 12 (Report of the Working Group on Methods of Analysis)

request information for further consideration by the next session of the Committee.

72) The Committee agreed to revise the levels of tocopherols and tocotrienols of rice bran oil to be included in Table 4 of the Standard as indicated in Appendix V.

### **Methods of Analysis and Sampling**

73) The Committee endorsed the recommendation of the Working Group on Methods of Analysis to refer the proposed method of analysis for gamma oryzanols to the CCMAS for endorsement as Type IV (candidate) method in view of lack of validation data.

### **Status of the Draft Amendment to the Standard for Named Vegetables Oils: Inclusion of Rice Bran Oil**

74) The Committee agreed to return the Draft Amendment, as amended at the present session (see Appendix V), to Step 6 for further comments on the numerical values in square brackets in Table 1 and Table 3.

75) The Committee further agreed that, in order to facilitate the consideration of the Draft Amendment at the next session, the following data and information would be requested:

- the trade volumes on international market (export); and
- the origin and importance of samples analysed (Industrial batch, commercial oil, number of batches, number of samples per batch), their nature (crude or processed, oil extracted in a laboratory from a raw material) and the methods of analysis used to analyse the samples.

### **PROPOSED DRAFT AMENDMENT TO THE STANDARD FOR NAMED VEGETABLE OILS: AMENDMENT TO TOTAL CAROTENOIDS IN UNBLEACHED PALM OIL (Agenda Item 5)<sup>8</sup>**

76) The Committee recalled that the Proposed Draft Amendment to Total Carotenoids in Unbleached Palm Oil from the current value of 500-2000 mg/kg to 400-2000 mg/kg had been approved as new work by the 29<sup>th</sup> Session of the Commission work through the Accelerated Procedure and circulated for comments at Step 3.

77) The Delegation of Indonesia informed the Committee that a survey of the total carotenoids in palm oils in mills and local tanks throughout the various geographical areas of production in Indonesia showed that the content varied from 400 to 700 mg/kg. Various planting materials had been used in Indonesia including those originating from Deli (Sumatra) palms which had been widely recognized to produce low carotenoid content oils. The Delegation therefore expressed its strong support for the amendment of the range of total carotenoids to 400-2000 mg/kg in the standard.

78) The Delegation of Malaysia expressed its reservations on the proposal to lower the minimum value for total carotenoids to 400 mg/kg as there were not sufficient data to justify such a change. The Delegation drew the attention of the Committee to the fact that while the inherent level of carotenoids may vary depending on type of oil palm species or varieties, it could also be affected by storage and manufacturing practices, and suggested that the carotene content of the fruit before processing should also be taken into account. The Delegation stressed that the proposal for lowering the minimum level of carotenoids to 400 mg/kg in unbleached palm oil should be justified, and for this purpose, a carefully designed study of oils produced at all stages of production and processing under good manufacturing practices should be carried out to obtain the relevant data. This should include the inherent carotene content in fruits. Several delegations supported this position.

79) The Committee recognised that there was no consensus on the amendment to the carotenoids content at this stage and agreed that additional data from producing countries would be necessary as a basis for further discussion. The Delegation of Indonesia indicated that they were ready to provide relevant data on total carotenoids in unbleached palm oil at the different stages of production and processing.

### **Status of the Proposed Draft Amendment to the Standard for Named Vegetable Oils**

80) The Committee agreed to return the Proposed Draft Amendment to Step 3 for further comments and consideration at the next session (see Appendix VI).

<sup>8</sup> CL 2005/47-FO, Annex II, CX/FO 07/20/5 (comments of Australia, Brazil, Peru), CRD 6 (comments of Indonesia), CRD 11 (comments of Malaysia)

**CODE OF PRACTICE FOR THE STORAGE AND TRANSPORT OF EDIBLE FATS AND OILS IN BULK. APPENDIX 2 – DRAFT LIST OF ACCEPTABLE PREVIOUS CARGOES (AT STEP 7) AND PROPOSED DRAFT LIST OF ACCEPTABLE PREVIOUS CARGOES (AT STEP 4)**

**(Agenda Item 6)<sup>9</sup>**

81) The Committee recalled that the 19<sup>th</sup> Session had agreed to retain the Draft List and the Proposed Draft List of Acceptable Cargoes respectively at Steps 7 and 4, with the understanding that they would be reconsidered in the light of the scientific advice that would be provided by FAO and WHO. The Committee considered how to proceed with the lists, taking into account its earlier discussion held under Item 2b) on the recommendations of the FAO/WHO Technical Meeting.

82) Some delegations expressed the view that the Committee should consider the lists only after the criteria proposed by the FAO/WHO Technical Meeting had been discussed and finalised in the Committee and pointed out that some important issues should be addressed, especially the procedures for amending the lists and the responsibilities for risk assessment. These delegations therefore proposed to retain the lists at Steps 7 and 4 and to consider how to apply the criteria to the lists at its next session.

83) In reply to some questions, the Representative of FAO indicated that in principle JECFA may address questions regarding the safety aspects of a substance if required by the Committee on a case by case basis. However, the responsibility for applying the criteria to the substances under discussion rested with the Committee as this was a risk management issue. The JECFA evaluation would be subject to the identification of a precise question from the Committee, data to support the evaluation and an indication of the priority of the request.

84) As regards the update of the lists, the Secretariat recalled that any amendment to the Code would require consideration according to the Elaboration Procedure and that the lists could be reviewed by the Committee whenever necessary on the basis of proposals from Members and new scientific information.

85) Some delegations and the Observer from FOSFA proposed to circulate both lists together with the criteria in order to identify the substances that caused food safety concerns in order to focus further discussion on the substances that might require further evaluation.

86) Some delegations supported circulation of the Draft List currently at Step 7 in order to identify substances that, in their opinion, might cause some safety concerns, and transfer them to the Proposed Draft List (at Step 4), with a view to their further evaluation if required. These delegations also proposed to retain the Proposed Draft List at Step 4 at this stage pending finalisation of the criteria.

87) Other delegations proposed to retain the Draft List at Step 7 without any change as the Committee had agreed earlier that no safety concerns existed with these substances and they were commonly used as previous cargoes. These delegations proposed to circulate for comments the Proposed Draft List to ask for any further substances that might be added to the list, with the relevant justification, and taking into account the substances that were currently allowed in trade, especially on the lists of FOSFA and NIOP.

88) After some discussion the Committee agreed to circulate both lists for comments and proposals that should focus on the following: the substances that raised safety concerns, or were proposed for deletion or required further evaluation; and the substances that might be added to the current lists. The Committee invited Members and Observers to provide clear justification for these proposals, including the scientific data considered as a basis for the amendment. It was further agreed that the next session would consider both the Draft List and the Proposed Draft List in conjunction with the criteria and would seek to identify the substances that could be allowed as acceptable previous cargoes. The Committee agreed that its objective would be to finalise the Draft List and advance it to Step 8 at its next session. The Committee might also consider substances that require specific risk assessment on a case by case basis.

89) The Committee agreed to circulate for comments the current text of Appendix 2 without any change, while recognising that the introduction to the list referred to criteria that would be superseded by the Proposed Draft Criteria circulated for comments as a result of the discussion under Agenda Item 2b). It was therefore agreed that no comments should be made on the introduction to the lists in Appendix 2.

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<sup>9</sup> CX/FO 07/20/6, CRD 4 (comments of the EC)

### **Status of the Draft List and Proposed Draft List of Acceptable Previous Cargoes**

90) The Committee agreed to return the Draft List to Step 6 and the Proposed Draft List to Step 3 for further comments and consideration at its next session (see Appendix IV).

### **CONSIDERATION OF THE LINOLENIC ACID LEVEL IN SECTION 3.9 OF THE STANDARD FOR OLIVE OILS AND OLIVE POMACE OILS (Agenda Item 7)<sup>10</sup>**

91) The Committee recalled that the 26<sup>th</sup> Session of the Commission had adopted the Standard for Olive Oils and Olive Pomace Oils without a level for linolenic acid and with a footnote stating “Pending the result of the IOOC<sup>11</sup> survey and further consideration by the Committee on Fats and Oils, national limits may remain in place”. The Committee noted that, at the request of the 19<sup>th</sup> Session of the Committee, which considered the IOOC survey and agreed to invite IOOC to continue the survey, a more comprehensive survey result was submitted by the International Olive Council (IOC) as contained in CX/FO 07/20/7.

#### **Report of the International Olive Council**

92) The Observer from IOC, referring to the document CX/FO 07/20/7, explained that the survey had identified very few cases in which the linolenic acid level in virgin olive oil exceeded 1.0% and introduced their analysis that changing the upper limit of the linolenic acid level from 1.0 to 1.5% could raise the undetectable level of fraudulent practices (mixing with other vegetable oils) up to 6%. The Committee appreciated the work of the IOC and thanked the countries which submitted the data for this survey.

93) The Delegation of Australia expressed the view that the survey result showed that the upper limit of 1.0% for the linolenic acid level did not reflect the worldwide production of virgin olive oil with different varieties and climatic conditions, resulting in linolenic acid levels above 1.0%. The Delegation further draw the attention of the Committee to the fact that linolenic acid level cannot be used for the detection of mixing with certain vegetable oils and that brassicasterol was the more sensitive parameter to detect adulteration with rapeseed oil. The Delegation of Argentina shared the view with Australia in that the percentage of the olive oil samples with linolenic acid higher than 1% was significant and that there were alternative methods for the detection of fraud.

94) The Delegations of the European Community, Tunisia and Turkey supported the recommendation in the IOC survey report for an upper level at 1.0% and stressed the necessity of protecting the consumers from possible fraudulent practices. These delegations further pointed out that brassicasterol was not effective in detecting the mixing with de-sterolized rapeseed oils.

95) Several delegations stressed the distinctive commercial value of olive oils and the importance of guaranteeing its authenticity and expressed their view that the linolenic acid content was a very effective and easy-to-use indicator in detecting fraud and that its upper limit should be set at 1.0% in order to maintain its effectiveness as an indicator.

96) The Delegation of Australia, while fully committed to guaranteeing authenticity, suggested that olive oils with higher levels of linolenic acid should also be allowed if its authenticity was proved through the testing of other factors.

97) The Delegation of the European Community, as a compromise solution, while keeping the upper limit at 1.0%, proposed to incorporate a footnote to the value, so that some of the authentic olive oils which do not satisfy this condition would be also allowed for trade. The Delegation of the United States proposed that the upper limit of 1.0% could act as a trigger for further analysis to confirm the authenticity.

98) The Committee generally recognized the possibility of this approach to reach consensus and agreed that a group of interested delegations and observers convene during the session to consider a proposed text for the footnote.

#### **Footnote to the Linolenic Acid Level on Section 3.9 of the Standard**

99) The Committee exchanged general views on the proposed text of the footnote (CRD 15).

100) The Delegation of Australia, while recognizing the need to work further on the values in square

<sup>10</sup> CX/FO 07/20/7; CX/FO 07/20/7 - Add.1 (Comments of Argentina, European Community and New Zealand); CRD 15 (proposed text of the footnote)

<sup>11</sup> The International Olive Oil Council (IOOC) subsequently became the International Olive Council (IOC)

brackets, appreciated the potential of the footnote to reach consensus and suggested that the text should be as simple as possible. The Delegation also pointed out that the approach should follow similar approaches to dealing with regional variations in other Codex Standards.

101) The Delegation of the European Community expected that a footnote would open a possibility for marketing authentic olive oils with higher linolenic acid levels without allowing fraudulent practices. The European Community also considered that to allow a linolenic acid level above 1% would require some other existing parameters to be tightened.

102) Some delegations believed that the proposed text was simple enough and pointed out that the parameters to be analysed were very basic in the authentication of olive oils and that they were already included in the Standard.

103) The Delegation of Canada noted that several quality factors other than linolenic acid were checked for conformity to the Standard, particularly in the cases where a higher level of linolenic acid was detected. Instead of considering different set of criteria applicable only to virgin olive oils with higher levels of linolenic acid, the Delegation suggested an alternative approach for the verification of authenticity.

104) The Delegation of New Zealand reiterated its view that the limit for linolenic acid for should be set at 1.5%.

105) In response to the clarification by the Delegation of New Zealand whether the Committee had the mandate to incorporate such a footnote providing for requirements in addition to linolenic acid, the Codex Secretariat explained that, since the Standard had been adopted by the Commission with a footnote allowing CCFO to consider the issue upon the receipt of IOOC survey, the Committee could decide what actions to take. It was further clarified that the introduction of the footnote would be deemed as new work and that the Committee should inform the Commission that it had resumed its consideration of this question with a view to the amendment of the Standard.

106) The Delegation of Argentina expressed the view that they would need more time to examine the implication of the proposal before taking any decision.

#### **Status of the Proposed Draft Amendment to the Standard for Olive Oils and Olive Pomace Oils**

107) After some discussion, the Committee agreed to circulate the text of CRD 15 which was discussed during the meeting as a proposed draft amendment to the Standard at Step 3 for comments (see Appendix VII) and to inform the Commission that it resumed the consideration of the level of linolenic acid in the Standard. While some delegations preferred not to specify numerical values, the Committee agreed to circulate the text without change, recognizing the significant effort in drafting the text and with the understanding that the entire text was for comments since it was at Step 3.

108) The Committee recognized that full scientific justification should be provided in submitting comments to the parameters in the footnote. In this regard, the Delegation of Japan expressed the view that as comprehensive information as possible on the authentication scheme applied in exporting and importing countries would be appreciated because some countries lacked such information.

#### **CONSIDERATION OF PROPOSALS FOR AMENDMENTS TO THE STANDARD FOR NAMED VEGETABLE OILS: PALM KERNEL STEARIN AND PALM KERNEL OLEIN (Agenda Item 8)<sup>12</sup>**

109) The Committee recalled that the 28<sup>th</sup> Session of the Commission had endorsed the recommendation of the 57<sup>th</sup> Session of the Executive Committee that Malaysia should submit its proposals for amendment to the Standard for Named Vegetable Oils to the Committee on Fats and Oils.

110) The Delegation of Malaysia, while introducing the proposals, referred to the trade data for palm kernel stearin and olein and outlined their essential characteristics presented in Tables 1 to 4, as well as the information provided in the project document according to the criteria for work priorities.

111) Several delegations indicated that they were producers, exporters or importers of these two types of oils and supported new work on palm kernel olein and stearin as the importance of these products justified the development of an international standard.

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<sup>12</sup> CX/FO 07/20/8, CRD 6 (comments of Indonesia)

112) The Committee noted some proposals for editorial amendments to the Tables, but agreed that there should be no detailed consideration of the proposed amendments at this stage. In reply to a question, the Delegation of Malaysia clarified that the fatty acid composition of palm kernel olein and palm kernel stearin were different from that of palm olein and palm stearin.

113) The Committee agreed to propose to the Commission to initiate new work on a Proposed Draft Amendment to the Standard for Named Vegetable Oils to include Palm Kernel Stearin and Palm Kernel Olein.

114) The Committee noted that all relevant information was provided in the project document presented in CX/FO 07/20/8 and agreed that it should be submitted to the Executive Committee and the Commission in the framework of the Critical Review.

115) The Committee agreed that, subject to the approval of the Commission, the Delegation of Malaysia would prepare the Proposed Draft Amendment, which would be circulated for comments at Step 3 and considered by the next session

### **CRITERIA FOR THE REVISION OF THE STANDARD FOR NAMED VEGETABLE OILS (Agenda Item 9)** <sup>13</sup>

116) The Committee recalled that the last session had considered a first discussion paper on the composition and naming of fatty acid modified vegetable oils, and had agreed that a working group coordinated by Canada would review the document for further consideration.

117) The Delegation of Canada, while introducing the document, indicated that the overall objective of this work was to provide a robust, flexible system for naming fatty acid modified vegetable oils in a manner that promotes truthful labelling and does not mislead consumers, and that the system proposed was based on nutrient comparative claims described in the Guideline for Nutrition and Health Claims. The Delegation also noted that a project document had been prepared to facilitate consideration of new work.

118) The Committee expressed its appreciation to the Delegation of Canada and the working group for its substantial work on a complex subject, and focused its discussion on the recommendations presented in the document, as follows.

**Recommendation 1:** use the comparative approach or a combination of the comparative and the absolute approaches as the basis for compositional requirements, for a more flexible approach that will be truthful and not misleading to the consumer;

**Recommendation 2:** for comparative approach, expand the categories of qualifiers from three (low, mid, high) to at least four and up to six with an even number above and below the unmodified fatty acid range.

**Recommendation 3:** do not create overlap of the fatty acid ranges for the modified oils with the ranges for the named oil as standardized in Codex Stan 210; and

**Recommendation 4:** where more than one fatty acid range is modified, the one that incurs the greatest intended modification is named; other fatty acid modifications may also be named.

#### Recommendation 1

119) Several delegations supported a combination of the absolute and comparative approaches in order to provide adequate flexibility and cover all possible modification to the composition of vegetable oils.

120) The Delegation of the United Kingdom noted that the comparative approach would be useful from the point of view of trade but that the issues related to consumer information on the final product should be clarified, in order to avoid misleading consumers, for example through the emphasis on composition changes that might not be really significant. These views were supported by other delegations.

121) Some delegations pointed out that it was not clear how this approach would be applied in practice, as it did not appear to cover the three modified oils currently covered by the standard, and therefore some concrete examples should be provided to facilitate further discussion.

122) Some delegations proposed to refer this question to the Committee on Food Labelling or the

<sup>13</sup> CX/FO 07/20/9, CX/FO 07/20/9-Add.1, CRD 3 (comments of Canada), CRD 11 (comments of Malaysia)

Committee on Nutrition and Foods for Special Dietary Uses. Other delegations pointed out that the Committee should first clarify the provisions that were proposed for amendment or addition to the current standard before referring them to other committees. It was noted that labelling provisions in standards were normally referred to the CCFL in any case, and that reference to the CCNFSDU would be required if specific provisions related to nutritional contents were considered.

123) The Committee agreed that there was more support for a combination of the absolute and comparative approach, and that it should continue to consider this issue at its next session.

#### Recommendation 2

124) The Committee agreed to use the six qualifiers proposed in the paper: ultra low; low or lower; reduced; mid or increased; high or higher; ultra high, with the understanding that this was a basis for further discussion.

#### Recommendations 3

125) The Committee noted a proposal to delete the reference to “intended modification”; however it agreed that changes in the composition of the oil were generally intentional in order to increase or decrease the level of specific fatty acid, and the current text of the recommendation was retained.

126) Some delegations supported the recommendation to avoid any gaps in the ranges of composition of fatty acids corresponding to the six qualifiers mentioned above, as it would clarify the identification of all types of oils and cover all cases of modification. The Delegation of Spain proposed that modified oils according to the proposed qualifiers should be included in a separate standard or a distinct section of the current standard.

127) Other delegations pointed out that this approach did not take into account the real characteristics of the oils found on the market; in many cases the modified oil would not exactly correspond to the qualifiers, and the criteria used to describe a high or low level of a specific fatty acid were not necessarily the same for all seed oils. Some delegations noted that as relatively small number of modified oils were included in the standard, there may not be a need for a new and complex system of identification.

#### Recommendation 4

128) The Committee noted a proposal to delete the reference to “intended modification”; however it agreed that changes in the composition of the oil were generally intentional in order to increase or decrease the level of specific fatty acid, and the current text of the recommendation was retained.

129) Some delegations noted that the use of a high level descriptor might need to be accompanied by additional information on the decreased levels of other fatty acids.

130) The Delegation of Malaysia expressed the view that the development of criteria should not be limited to fatty acids as other composition characteristics could also be modified and should be taken into account. It was agreed to focus on modifications to fatty acids and consider other factors afterwards.

#### Further work

131) The Committee did not come to a final conclusion on the above recommendations and considered how to proceed further. Although it was noted that a project document had been presented, several delegations did not support new work at this stage as they felt that further clarification was needed regarding the actual changes that would be proposed to the standard and the practical application of the qualifiers on modified vegetable oils. The Committee noted that examples had already been presented in the Annex to the document, and could be used with some amendments as a basis for further discussion.

132) Regarding future direction of the work, the Delegation of Japan, referring to the original characteristics of this issue, expressed the view that the Committee may be able to achieve the same objective through other means such as the improvement of working procedures, rather than the criteria approach.

133) The Committee welcomed the offer of the Delegation of Canada to prepare a revised document, with the assistance of the United States and France, for further consideration at the next session in order to decide whether to proceed with new work. The document should concentrate on the proposed changes to the current standard and include specific examples, as well as a project document.

**OTHER BUSINESS, FUTURE WORK AND DATE AND PLACE OF NEXT SESSION  
(Agenda Item 10)<sup>14</sup>****Codex Standard for Olive Oils and Olive Pomace Oils**

134) The Committee noted that two proposals from Australia and Syria to amend the Codex Standard for Olive Oils and Olive Pomace Oils had been submitted to the Committee for consideration.

135) The Delegation of Australia clarified that they would not seek any decision at the current session and that more comprehensive and enhanced proposal would be submitted to the next session after collecting further data in cooperation with other countries.

136) The Delegation of Syria explained that recent survey in Syria had indicated that olive oil from certain regions of Syria did not meet the upper limit of 0.5% of delta-7-stigmastenol in total sterol specified in the Standard. The Delegation further explained that the issue had also been raised at the IOC Council in 2005. The Observer from IOC informed the Committee that the issue had been noted by IOC and would be considered when the further data became available. The Delegation of Syria indicated that the data of the results of analysis attached to the Syrian proposal originated from the same source as the data provided to IOC to be included in the recent survey on the level of linolenic acid.

137) The Committee noted that there was no strong support to initiate new work on the revision of the Standard proposed by Syria. The Delegation of Syria expressed its reservation on the decision not to request the Commission for approval of new work at the current session.

**Up-dating of Methods in Standards**

138) The Committee noted the recommendation by the Working Group on Methods of Analysis to update certain methods of analysis for the Standards within the terms of reference of the Committee. The Committee endorsed the recommendation and agreed to forward the updates for endorsement by CCMAS (see Appendix VIII).

**Date and Place of Next Session**

139) The Committee noted that that this session was the final one to be hosted by the Government of the United Kingdom and that the date and place of next session would be subject to the consultation between the next host government to be decided at the 30<sup>th</sup> Session of the Codex Alimentarius Commission and the Codex Secretariat.

140) The Committee expressed with acclamation its gratitude to the United Kingdom for the strong support they have provided to the Committee since 1964.

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<sup>14</sup> CRD 5 (proposal by Syria); CRD 10 (proposal by Australia); CRD 12 (Report of the Working Group on Methods of Analysis)

**SUMMARY STATUS OF WORK**

<b>Subject Matter</b>	<b>Step</b>	<b>Action by</b>	<b>Document Reference in ALINORM 07/30/17</b>
Draft Standard for Fat Spreads and Blended Spreads	8	Governments 30 <sup>th</sup> CAC	para. 62 Appendix II
Draft Amendments to the Standard for Named Vegetable Oils: inclusion of rice bran oil	6	Governments 21 <sup>st</sup> CCFO	para. 74 Appendix V
Draft List of Acceptable Previous Cargoes	6	Governments 21 <sup>st</sup> CCFO	para. 90 Appendix IV
Proposed Draft List of Acceptable Previous Cargoes	3	Governments 21 <sup>st</sup> CCFO	para. 90 Appendix IV
Proposed Draft Criteria (Code of Practice for the Storage and Transport of Fats and Oils in Bulk)	3	Governments 21 <sup>st</sup> CCFO	para. 31 Appendix III
Proposed Draft Amendments to the Standard for Named Vegetable Oils: total carotenoids in unbleached palm oil	3	Governments 21 <sup>st</sup> CCFO	para. 80 Appendix VI
Proposed Draft Amendment to the Standard for Olive Oils and Olive Pomace Oils: linolenic acid	3	Governments 30 <sup>th</sup> CAC 21 <sup>st</sup> CCFO	para. 107 Appendix VII
Proposed Draft Amendments to the Standard for Named Vegetable Oils: inclusion of palm kernel olein and palm kernel stearin	1/2/3	Governments 30 <sup>th</sup> CAC 21 <sup>st</sup> CCFO	para.113
Methods of Analysis in Standards for Fats and Oils		28 <sup>th</sup> CCMAS 30 <sup>th</sup> CAC	para. 138 Appendix VIII

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**DRAFT STANDARD FOR FAT SPREADS AND BLENDED SPREADS**  
(At Step 8 of the Procedure)

**1. SCOPE**

This Standard applies to fat products, containing not less than 10% and not more than 90% fat, intended primarily for use as spreads. However, this Standard does not apply to fat spreads derived exclusively from milk and/or milk products to which only other substances necessary for their manufacture have been added. It only includes margarine and products used for similar purposes and excludes products with a fat content of less than 2/3 of the dry matter (excluding salt). Butter and dairy spreads are not covered by this Standard.

**2. DESCRIPTION**

**2.1 Fat Spreads and Blended Spreads**

The products covered by this Standard are foods that are plastic or fluid emulsions, principally of water and edible fats and oils.

**2.2 Edible Fats and Oils**

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

**3. ESSENTIAL COMPOSITION AND QUALITY FACTORS**

**3.1 Composition**

**3.1.1 Fat Spreads**

3.1.1.1 For these products, any milk fat content must be no more than 3% of the total fat content.

3.1.1.2 The fat content shall be as follows:

- |     |                          |       |
|-----|--------------------------|-------|
| (a) | Margarine                | ≥ 80% |
| (b) | Fat spreads <sup>1</sup> | < 80% |

**3.1.2 Blended Spreads**

3.1.2.1 These are blended spreads in which milk fat is more than 3% of the total fat content. However a higher minimum percentage of milk fat may be specified in accordance with the requirements of the country of the retail sale.

**3.1.2.2 The fat content shall be as follows:**

- |     |                    |       |
|-----|--------------------|-------|
| (a) | Blends             | ≥ 80% |
| (b) | Blended fat spread | < 80% |

---

<sup>1</sup> The term “margarine” may, in some cases, be used in the name of the food as provided for in section 7.1.1.

## 3.2 Permitted Ingredients

3.2.1 The following substances may be added:

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

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

Sodium Chloride

Sugars (any carbohydrate sweetening matter)

Suitable edible proteins

3.2.2 Use of other ingredients, including minerals, may be permitted in national legislation.

## 4. **FOOD ADDITIVES**

Only those food additive classes listed below are technologically justified and may be used in products covered by this Standard. Within each additive class only those food additives listed below, or referred to, may be used and only for the functions, and within the limits, specified.

### **Additive Functional Classes**

- a.        Acidity regulators,
- b.        Antifoaming agents,
- c.        Antioxidants,
- d.        Colours,
- e.        Emulsifiers,
- f.        Flavour enhancers,
- g.        Packing gases,
- h.        Preservatives,
- i.        Stabilizers, and
- j.        Thickeners.

Acidity regulators, antifoaming agents, antioxidants, colours, emulsifiers, flavour enhancers, packing gases, preservatives, stabilizers and thickeners used in accordance with Table 3 of the Codex General Standard for Food Additives are acceptable for use in foods conforming to this Standard.

#### 4.1 Flavours

Natural flavouring substances and artificial flavouring substances.

#### 4.2 Acidity Regulators

INS No.	Additive	Maximum Use Level
262(ii)	Sodium Diacetate	1,000 mg/kg
334; 335(i), 335(ii); 336(i), 336(ii); 337	Tartrates	100 mg/kg (as tartaric acid)
338; 339(i), 339(ii), 339(iii); 340(i), 340(ii), 340 (iii); 341(i), 341(ii), 341(iii); 342(i), 342(ii); 343(i), 343(ii), 343(iii); 450(i), 450(ii), 450(iii), 450(v), 450(vi); 450(vii), 451(i), 451(ii); 452(i), 452(ii), 452(iii), 452(iv), 452(v); 542	Phosphates	1,000 mg/kg (as Phosphorus)

#### 4.3 Antifoaming Agents

INS No.	Additive	Maximum Use Level
900a	Polydimethylsiloxane	10 mg/kg (frying purposes, only)

#### 4.4 Antioxidants

INS No.	Additive	Maximum Use Level
304, 305	Ascorbyl Esters	500 mg/kg (as ascorbyl stearate)
320	Butylated Hydroxyanisole	200 mg/kg (fat or oil basis) singly or in combination.
321	Butylated Hydroxytoluene	
310	Propyl Gallate	
319	Tertiary-Butylhydroquinone	
388, 389	Thiodipropionates	200 mg/kg (as thiodipropionic acid)
306, 307	Tocopherols	500 mg/kg
385, 386	EDTAs	100 mg/kg (as anhydrous calcium disodium EDTA)
384	Isopropyl Citrates	100 mg/kg

#### 4.5 Colours

INS No.	Additive	Maximum Use Level
120	Carmines	500 mg/kg
160b	Annatto Extracts	[100 mg/kg]
150b	Caramel Colour Class II	500 mg/kg
150c	Caramel Colour Class III	500 mg/kg
150d	Caramel Colour Class IV	500 mg/kg
160a(ii)	Carotenes, Vegetable (Natural carotenes)	1000 mg/kg
100(i)	Curcumin	10 mg/kg
160a(i)	Beta-carotene (synthetic)	35 mg/kg singly or in combination
160e	Beta-Apo-8'-Carotenal	
160f	Beta-Apo-8'-Carotenoic Acid, methyl or ethyl ester	
101(i), 101(ii)	Riboflavins	300 mg/kg

#### 4.6 Emulsifiers

INS No.	Additive	Maximum Use Level
472e	Diacetyltartaric and Fatty Acid Esters of Glycerol	10,000 mg/kg
475	Polyglycerol Esters of Fatty Acids	5,000 mg/kg
476	Polyglycerol Esters of Interesterified Ricinoleic Acid	4,000 mg/kg
432, 433, 434, 435, 436	Polysorbates	10,000 mg/kg (singly or in combination)
477	Propylene Glycol Esters of Fatty Acids	20,000 mg/kg
491, 492, 493, 494, 495	Sorbitan Esters of Fatty Acids	10,000 mg/kg (singly or in combination)
481(i), 482(i)	Stearoyl-2-Lactylates	10,000 mg/kg (singly or in combination)
484	Stearyl Citrate	100 mg/kg (fat or oil basis)
474	Sucroglycerides	10,000 mg/kg
473	Sucrose Esters of Fatty Acids	10,000 mg/kg
479	Thermally oxidized soya bean oil interacted with mono and diglycerides of fatty acids)	5,000 mg/kg (in fat emulsions for frying or baking purpose, only).

#### 4.7 Preservatives

INS No.	Additive	Maximum Use Level
210, 211, 212, 213	Benzoates	1,000 mg/kg (singly or in combination (as benzoic acid))
200, 201, 202, 203	Sorbates	2,000 mg/kg (singly or in combination (as sorbic acid))
If used in combination, the combined use shall not exceed 2000 mg/kg of which the benzoic acid portion shall not exceed 1000 mg/kg.		

#### 4.8 Stabilizers and Thickeners

INS No.	Additive	Maximum Use Level
405	Propylene Glycol Alginate	3,000 mg/kg

## 5. CONTAMINANTS

### 5.1 Heavy metals

The products covered by the provisions of this Standard shall comply with maximum limits being established by the Codex Alimentarius Commission but in the meantime the following limits will apply:

#### Maximum permissible concentration

Lead (Pb)	0.1 mg/kg
Arsenic (As)	0.1 mg/kg

### 5.2 Pesticide residues

The products covered by the provisions of this Standard shall comply with those maximum residue limits established by the Codex Alimentarius Commission for these commodities.

## 6. HYGIENE

6.1 It is recommended that the products covered by the provisions of this Standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 3-1997), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.

6.2 The products should comply with any microbiological criteria established in accordance with the Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997).

## 7. LABELLING

The product shall be labelled in accordance with the Codex General Standard for the Labelling of Pre-packaged Foods (Ref. CODEX STAN 1-1985, Rev. 1-1991; Codex Alimentarius, Volume 1A), Codex Guidelines on the Use of Nutrition Claims (CAC/GL 23-1997) and other relevant food labelling guidelines (Codex Alimentarius, Volume 1A). The product designations should be translated into other languages in a meaningful way and not strictly word by word.

### 7.1 Name of the Food

The name of the food to be declared on the label shall be as specified in Sections 3.1.1 and 3.1.2.

7.1.1 In accordance with requirements acceptable in the country of retail sale, fat spreads defined in section 3.1.1.2 with a fat content of less than 80% may incorporate the term “margarine” in the name of the food, provided that the term is qualified to make clear the lower fat content. Fat spreads with a fat content of 39 to 41% may be designated as “Minarine” or “Halvarine”.

7.1.2 For item 3.1, the name of the product may incorporate the name of the fats and oils in a generic or specific manner.

### 7.2 Labelling of Non-Retail Containers

Information on the above labelling requirements shall be given either on the container or in accompanying documents, except that the name of the food, lot identification and the name and address of the manufacturer or packer shall appear on the container.

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

### 7.3 Declaration of Fat Content

7.3.1 The product shall be labelled to indicate fat content in a manner found acceptable in the country of sale.

7.3.2 The milk fat content, when present shall be indicated in a manner that is clear and not misleading to the consumer.

#### **7.4 Declaration of Salt Content**

7.4.1 The product should be labelled to indicate salt content in a manner found acceptable in the country of retail sale.

### **8. METHODS OF ANALYSIS AND SAMPLING**

#### **8.1 Determination of lead**

According to AOAC 994.02; or ISO 12193: 1994; or AOCS Ca 18c-91 (97).

#### **8.2 Determination of arsenic**

According to AOAC 952.13; AOAC 942.17; or AOAC 985.16.

#### **8.3 Determination of water, solids-non-fat and fat content**

According to ISO 3727: 1977; AOAC 920.116; or IDF 80: 1977.

#### **8.4 Determination of milk fat content (Butyric acid)**

According to AOAC 990.27; or AOCS Ca 5c-87 (97).

#### **8.5 Determination of salt content**

According to IDF 12B: 1988, ISO CD 1738 or AOAC 960.29.

#### **8.6 Determination of vitamin A content**

According to AOAC 985.30; AOAC 992.04; or JAOAC 1980, 63, 4.

#### **8.7 Determination of vitamin D content**

According to AOAC 981.17.

#### **8.8 Determination of vitamin E content**

According to ISO 9936: 1997.

**RECOMMENDED INTERNATIONAL CODE OF PRACTICE FOR THE STORAGE AND  
TRANSPORT OF EDIBLE FATS AND OILS IN BULK**

**PROPOSED DRAFT CRITERIA TO ASSESS THE ACCEPTABILITY OF SUBSTANCES  
FOR INCLUSION IN A LIST OF ACCEPTABLE PREVIOUS CARGOES  
(At Step 3 of the Procedure)**

**1. SCOPE**

When assessing the acceptability of substances as previous cargoes for fats and oil, a substance is considered acceptable when it complies with the following four criteria:

1	The substance is transported/stored in an appropriately designed system; with adequate cleaning routines, followed by effective inspection and recording procedures
2	Residues of the substance in the subsequent cargo of fat or oil should not result in adverse human health effects. The ADI (or TDI) of the substance should be greater than or equal to 0.1 mg/kg bw/day. Substances for which there is no numerical ADI (or TDI) should be evaluated on a case by case basis.
3	The substance should not be a known allergen.
4	Most substances do not react with edible fats and oils under normal shipping and storage conditions. However, if the substance does react with edible fats and oils, any reaction products must comply with criteria 2 and 3.

**RECOMMENDED INTERNATIONAL CODE OF PRACTICE FOR THE STORAGE AND  
TRANSPORT OF EDIBLE FATS AND OILS IN BULK****DRAFT LIST OF ACCEPTABLE PREVIOUS CARGOES  
(At Step 6 of the Procedure)****Notes**

- (1) Where it is not possible to transport edible fats and oils in bulk in tankers reserved for foodstuffs only, the possibility of contamination incidents is reduced by carriage in tankers in which the previous cargo is included in the list below.\* Application of this list must be combined with: good design of the system; adequate cleaning routines; and, effective inspection procedures (see Section 2.1.3 of the Code).
- (2) Previous cargoes not on the list are only acceptable if they are agreed upon by the competent authorities of the importing country (see section 2.1.3 of the Code).
- (3) The list below is not necessary a final list but is subject to review and possible amendment to take account of scientific or technical developments. Additional substances are being considered for inclusion in the list and may be included as acceptable following an appropriate risk assessment. This should include consideration of:
  - Toxicological properties, including genotoxic and carcinogenic potential (account may be taken of the opinions of JECFA or other recognised bodies);
  - Efficacy of cleaning procedures between cargoes;
  - Dilution factor in relation to the potential amount of residue of the previous cargo and any impurity which the previous cargo might have contained, and the volume of oil or fat transported;
  - Solubility of possible contaminating residues;
  - Subsequent refining/processing of the oil or fat;
  - Availability of analytical methods for the detection of trace amounts of residues or for verifying the absence of contamination; and,
  - Reactivity of oils/fats with contaminating residues.

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\*This list is currently under development.

**List of acceptable previous cargoes**

<b>Substance (synonyms)</b>	<b>CAS Number</b>
Acetic acid (ethanoic acid; vinegar acid; methane carboxylic acid)	64-19-7
Acetic anhydride (ethanoic anhydride)	108-24-7
Acetone (dimethylketone; 2-propanone)	67-64-1
Acid oils and fatty acid distillates - from animal, marine and vegetable fats and oils	
Ammonium hydroxide (ammonium hydrate; ammonia solution; aqua ammonia)	1336-21-6
Ammonium polyphosphate	68333-79-9
Animal, marine and vegetable oils and fats (including hydrogenated oils and fats) - other than cashew shell nut oil and tall oil	
Beeswax – white	8006-40-4
Beeswax – yellow	8012-89-3
Benzyl alcohol (pharmaceutical and reagent grades)	100-51-6
1,3-Butanediol (1,3-butylene glycol)	107-88-0
1,4-Butanediol (1,4-butylene glycol)	110-63-4
Butyl acetate, n-	123-86-4
Butyl acetate, sec-	105-46-4
Butyl acetate, tert-	540-88-5
Calcium chloride solution	10043-52-4
Calcium lignosulphonate liquid (lignin liquor; sulphite lye)	8061-52-7
Candelilla wax	8006-44-8
Carnauba wax (Brazil wax)	8015-86-9
Cyclohexane (hexamethylene; hexanaphthene; hexahydrobenzene)	110-82-7
Ethanol (ethyl alcohol; spirits)	64-17-5
Ethyl acetate (acetic ether; acetic ester; vinegar naphtha)	141-78-6
2-Ethylhexanol (2-ethylhexy alcohol)	104-76-7
Fatty acids	
Arachidic acid (eicosanoic acid)	506-30-9
Behenic acid (docosanoic acid)	112-85-6
Butyric acid (n-butyric acid; butanoic acid; ethyl acetic acid; propyl forinic acid)	107-92-6
Capric acid (n-decanoic acid)	334-48-5
Caproic acid (n-hexanoic acid)	142-62-1
Caprylic acid (n-octanoic acid)	124-07-2
Erucic acid (cis-13-docosenoic acid)	112-86-7
Heptoic acid (n-heptanoic acid)	111-14-8
Lauric acid (n-dodecanoic acid)	143-07-7
Lauroleic acid (dodecenoic acid)	4998-71-4
Linoleic acid (9,12-octadecadienoic acid)	60-33-3
Linolenic acid (9,12,15-octadecatrienoic acid)	463-40-1
Myristic acid (n-tetradecanoic acid)	544-63-8
Myristoleic acid (n-tetradecenoic acid)	544-64-9
Oleic acid (n-octadecenoic acid)	112-80-1
Palmitic acid (n-hexadecanoic acid)	57-10-3
Palmitoleic acid (cis-9-hexadecenoic acid)	373-49-9
Pelargonic acid (n-nonanoic acid)	112-05-0
Ricinoleic acid (cis-12-hydroxy octadec-9-enoic acid; castor oil acid)	141-22-0
Stearic acid (n-octadecanoic acid)	57-11-4

<b>Substance (synonyms)</b>	<b>CAS Number</b>
Valeric acid (n-pentanoic acid; valerianic acid)	109-52-4
Fatty alcohols	
Butyl alcohol (1-butanol; butyric alcohol)	71-36-3
Caproyl alcohol (1-hexanol; hexyl alcohol)	111-27-3
Capryl alcohol (1-n-octanol; heptyl carbinol)	111-87-5
Cetyl alcohol (alcohol C-16; 1-hexadecanol; cetylic alcohol; palmityl alcohol; n-primary hexadecyl alcohol)	36653-82-4
Decyl alcohol (1-decanol)	112-30-1
Iso decyl alcohol (isodecanol)	25339-17-7
Enanthyl alcohol (1-heptanol; heptyl alcohol)	111-70-6
Lauryl alcohol (n-dodecanol; dodecyl alcohol)	112-53-8
Myristyl alcohol (1-tetradecanol; tetradecanol)	112-72-1
Nonyl alcohol (1-nonanol; pelargonic alcohol; octyl carbinol)	143-08-8
Iso nonyl alcohol (isononanol)	27458-94-2
Oleyl alcohol (octadecenol)	143-28-2
Stearyl alcohol (1-octadecanol)	112-92-5
Tridecyl alcohol (I-tridecanol)	27458-92-0
Fatty acid esters – combination of above fatty acids and fatty alcohols	
e.g. Butyl myristate	110-36-1
Cetyl stearate	110-63-2
Oleyl palmitate	2906-55-0
Fatty alcohol blends	
Cetyl stearyl alcohol (C16-C18)	67762-27-0
Lauryl myristyl alcohol (C12-C14)	
Formic acid (methanoic acid; hydrogen carboxylic acid)	64-18-6
Glycerine (glycerol, glycerin)	56-81-5
Heptane	142-82-5
n-Hexane	110-54-3
Iso-butyl acetate	110-19-0
Iso-octyl alcohol (isooctanol)	26952-21-6
Iso-propyl alcohol (isopropanol; dimethyl carbinol; 2-propanol)	67-63-0
Limonene (dipentene)	138-86-3
Magnesium chloride solution	7786-30-3
Methanol (methyl alcohol)	67-56-1
Methyl ethyl ketone (2-butanone; MEK)	78-93-3
Methyl isobutyl ketone (4-methyl-2-pentanone; iso propylacetone; MIBK)	108-10-1
Methyl tertiary butyl ether (MBTE)	1634-04-4
Molasses	57-50-1
Montan wax	8002-53-7
Pentane	109-66-0
Petroleum wax (parafin wax)	8002-74-2
Phosphoric acid (ortho phosphoric acid)	7664-38-2
Potable water – only acceptable where the immediate previous cargo is also on the list	7732-18-5
Polypropylene glycol	25322-69-4
Potassium hydroxide solution (caustic potash)	1310-58-3
Propyl acetate	109-60-4
Propyl alcohol (propane-1-ol; 1-propanol)	71-23-8

<b>Substance (synonyms)</b>	<b>CAS Number</b>
Propylene glycol, 1,2- (1,2-propylene glycol; propan-1,2-diol; 1,2-dihydroxypropane; monopropylene glycol (MPG); methyl glycol)	57-55-6
Propylene tetramer ((tetrapropylene; dodecene)	6842-15-5
Silicon dioxide (microsilica)	7631-86-9
Sodium hydroxide solution (caustic soda, lye; sodium hydrate; white caustic)	1310-73-2
Sodium silicate (water glass)	1344-09-8
Sorbitol (D-sorbitol; hexahydric alcohol; D-sorbite)	50-70-4
Soybean oil epoxidized	8013-07-8
Sulphuric acid	7664-93-9
Urea ammonia nitrate solution (UAN)	
White mineral oils	8042-47-5

**PROPOSED DRAFT LIST OF ACCEPTABLE PREVIOUS CARGOES  
(AT STEP 3)**

**List of acceptable previous cargoes**

<b>Substance (synonyms)</b>	<b>CAS Number</b>
2,3-Butanediol (2,3-butylene glycol)	513-85-9
iso-Butanol (2-methyl-1-propanol)	78-83-1
Calcium ammonium nitrate solution	6484-52-2
Calcium nitrate (CN-9) solution	35054-52-5
Cyclohexanol	108-93-0
Cyclohexanone	108-94-1
Fatty acid methyl esters	
These include for example,	
e.g. Methyl laurate (methyl dodecanoate)	111-82-0
Methyl oleate (methyl octadecenoate)	112-62-9
Methyl palmitate (methyl hexadecanoate)	112-39-0
Methyl stearate (methyl octadecanoate)	112-61-8
Hydrogen peroxide	
Kaolin slurry	1332-58-7
1,3 -Propylene glycol	504-63-2
Unfractionated fatty acid mixture or mixtures of fatty acids from natural oils and fats	
Unfractionated fatty alcohol mixture or mixtures of fatty alcohols from natural oils and fats	
Unfractionated fatty esters or mixtures of fatty esters from natural oils and fats	
Vegetable oil – epoxidised	

**PROPOSED DRAFT AMENDMENT TO THE CODEX STANDARD FOR NAMED VEGETABLE  
OILS (RICE BRAN OIL)  
(At Step 6 of the Procedure)**

**2. DESCRIPTION**

**2.1 Product Definition**

2.1.15 Rice bran oil (rice oil) is derived from the bran of rice (*Oryza sativa* L).

**3. ESSENTIAL COMPOSITION AND QUALITY FACTORS**

**Table 1: Fatty acid composition of vegetable oils as determined by gas liquid chromatography from authentic samples (expressed as percentage of total fatty acids)**

<b>Fatty acid</b>	<b>Rice bran oil</b>	<b>Fatty acid</b>	<b>Rice bran oil</b>
C6:0	ND	C18:2	29-40 [20-40]
C8:0	ND	C18:3	0.1-2.9
C10:0	ND	C20:0	ND-0.9
C12:0	ND-0.2	C20:1	ND-0.8
C14:0	0.1-0.7	C20:2	ND
C16:0	14-23 [14-28]	C22:0	ND-0.5
C16:1	ND-0.5	C22:1	ND
C17:0	ND	C22:2	ND
C17:1	ND	C24:0	ND-0.6
C18:0	0.9-4.0	C24:1	ND
C18:1	38-48		

## OTHER QUALITY AND COMPOSITION FACTORS

### 2. COMPOSITION CHARACTERISTICS

2.10 The gamma oryzanols in crude rice bran oil should be in the range of 0.9-2.1 %.

### 3. CHEMICAL AND PHYSICAL CHARACTERISTICS

**Table 2: Chemical and physical characteristics of crude vegetable oils**

	<b>Rice bran oil</b>
<b>Relative density (20°C/water at 20°C)</b>	0.910 – 0.929
<b>Refractive index (ND 40° C)</b>	1.460 – 1.473
<b>Saponification value (mg KOH/g oil)</b>	180 – 199
<b>Iodine value</b>	90-115
<b>Unsaponifiable matter (g/kg)</b>	65

### 4. IDENTITY CHARACTERISTICS

**Table 3: Levels of desmethylsterols in crude vegetable oils from authentic samples as percentage of total sterols**

	<b>Rice bran oil</b>
<b>Cholesterol</b>	ND - 0.5
<b>Brassicasterol</b>	ND
<b>Campesterol</b>	11.0 – 35.0
<b>Stigmasterol</b>	6.0 – 40.0
<b>Beta-sitosterol</b>	25.0 – 67.0
<b>Delta-5-avenasterol</b>	ND – 9.9
<b>Delta-7 stigmastenol</b>	ND – 14.1
<b>Delta-7-avenasterol</b>	ND – 4.4
<b>Others</b>	ND – [60.0]
<b>Total Sterols (mg/kg)</b>	10500-31000

**Table 4: Levels of tocopherols and tocotrienols in crude vegetable oils from authentic samples (mg/kg)**

	<b>Rice bran oil</b>
<b>Alpha-tocopherol</b>	49-583
<b>Beta-tocopherol</b>	ND – 47
<b>Gamma-tocopherol</b>	ND – 212
<b>Delta-tocopherol</b>	ND-31
<b>Alpha-tocotrienol</b>	ND – 627
<b>Gamma-tocotrienol</b>	142 – 790
<b>Delta-tocotrienol</b>	ND – 59
<b>Total (mg/kg)</b>	191 - 2349

## Method of Analysis for Gamma Oryzanols

### 1. Definition

This method is used to determine gamma oryzanol content (%) in oils from spectrophotometer absorption measurements at the wavelength of maximum absorption near 315nm.

### 2. Scope

Applicable to crude rice bran oil.

### 3. Apparatus

- 3.1. Spectrophotometer - for measuring extinction in the ultraviolet between 310 and 320 nm.
- 3.2. Rectangular quartz cuvettes - having an optical light path of 1 cm.
- 3.3. Volumetric flask - 25mL.
- 3.4. Filter paper - Whatman no.2, or equivalent.

### 4. Reagents

- 4.1. n-Heptane - Spectrophotometrically pure.

### 5. Procedure

- 5.1. Before using, the spectrophotometer should be properly adjusted to a zero reading filling both the sample cuvette and the reference cuvette with n-Heptane.
- 5.2. Filter the oil sample through filter paper at ambient temperature.
- 5.3. Weigh accurately approximately 0.02g of the sample so prepared into a 25mL volumetric flask, make up to the mark with n-Heptane.
- 5.4. Fill a cuvette with the solution obtained and measure the extinction at the wavelength of maximum absorption near 315nm, using the same solvent as a reference.
- 5.5. The extinction values recorded must lie within the range 0.3-0.6. If not, the measurements must be repeated using more concentrated or more diluted solutions as appropriate.

### 6. Calculation

Calculate gamma oryzanol content as follows:

$$\text{Gamma oryzanol content, \%} = 25 \times (1 / W) \times A \times (1 / E)$$

Where -

W = mass of sample, g

A = extinction (absorbance) of the solution

E = specific extinction  $E_{1\text{cm}}^{1\%} = 359$

**PROPOSED DRAFT AMENDMENT TO THE STANDARD FOR NAMED VEGETABLE OILS  
(UNBLEACHED PALM OIL)  
(At Step 3 of the Accelerated Procedure)**

“2.6 The total carotenoids (as beta-carotene) for unbleached palm oil, unbleached palm olein and unbleached palm stearin should be in the range ~~500-2000~~ 400-2000, 550-2500 and 300-1500 mg/kg, respectively.”

**PROPOSED DRAFT AMENDMENT TO THE STANDARD FOR OLIVE OILS AND OLIVE  
POMACE OILS  
(At Step 3 of the Procedure)**

	<b>Virgin olive oils</b>	<b>Olive oil Refined olive oil</b>	<b>Olive pomace oil Refined olive pomace oil</b>
C18:3	0.0-1.0*	0.0-1.0	0.0-1.0

\*: Virgin olive oil may exceed the level for linolenic acid (C18:3) up to [1.1%][1.3%] due to climatic, geographic and varietal influences. Virgin olive oil that exceeds the limit for linolenic acid will be considered to be in compliance with the Standard if the authenticity can be verified through further testing including stigmastadiene (up to 0.05 mg/kg), ECN42 (up to [0.1]) [and campesterol (up to 3.5% total sterols)]. Data that demonstrate natural variation should be provided.

**PROPOSED UPDATE OF METHODS OF ANALYSIS IN STANDARDS  
FOR FATS AND OILS**

<b>Fats and Oils and Related Products</b>	<b>Analyte</b>	<b>Present Methods</b>	<b>Proposed Change</b>
Fats and Oils (all)	Arsenic	AOAC 952.13 (Codex general method) IUPAC 3.136	AOAC 952.13 (Codex general method)
Fats and Oils (all)	Arsenic	AOAC 942.17 (Codex general method)	AOAC 942.17 (Codex general method)
Fats and Oils (all)	Arsenic	AOAC 985.16 (Codex general method)	AOAC 985.16 (Codex general method)
Fats and oils	Butylhydroxyanisole, butylhydroxytoluene, tert-butylhydroquinone, & propyl gallate	AOAC 983.15	AOAC 983.15; or AOCS Ce 6-86 (97)
Fats and Oils (all)	Insoluble impurities	IUPAC 2.604 ISO 663:2000	ISO 663:2000
Fats and Oils (all)	Lead	AOAC 994.02 IUPAC 2.623 (or 2632?) ISO 12193:1994 (Codex general method)	AOAC 994.02 ISO 12193:1994; or AOCS Ca 18c-91 (03)
Fats and Oils (all)	Matter volatile at 105°C	IUPAC 2.601 ISO 662:1998	ISO 662:1998
Fats and Oils (all)	Soap content	BS 684 Section 2.5	BS 684 Section 2.5; or Cc 17-95 (97)
Fats and oils not covered by individual standards	Acid Value	IUPAC 2.201 ISO 660:1996	ISO 660:1996; or AOCS Cd 3d-63 (03)
Fats and oils not covered by individual standards	Copper and Iron	AOAC 990.05 ISO 8294:1994 IUPAC 2.631 (Codex general method)	AOAC 990.05; or ISO 8294:1994; or AOCS Ca 18b-91 (03)
Fats and oils not covered by individual standards	Peroxide value	IUPAC 2.501 (as amended) AOCS Cd 8b-90 ISO 3961:1998	AOCS Cd 8b-90 ISO 3961:1998

Named Animal Fats	Acidity	IUPAC 2.201 ISO 660:1996	ISO 660:1996 amended 2003; or AOCS Cd 3d-63 (03)
Named Animal Fats	GLC ranges of fatty acid composition	IUPAC 2.301, 2.302 and 2.304 or ISO 5508: 1995 and ISO 5509: 2000	ISO 5508: 1995 and ISO 5509: 2000; or AOCS Ce 2-66 (97) and Ce 1e-91 (01) or Ce 1f-96 (02)
Named Animal Fats	Copper and Iron	AOAC 990.05 ISO 8294:1994 IUPAC 2.631 (Codex general method)	AOAC 990.05, ISO 8294:1994; or AOCS Ca 18b-91 (03)
Named Animal Fats	Iodine value (IV)	IUPAC 2.205/1, ISO 3961: 1996; or AOAC 993.20; or AOCS Cd 1d- 1992 (97)	ISO 3961: 1996; or AOAC 993.20; or AOCS Cd 1d- 1992 (97)
Named Animal Fats	Peroxide value	IUPAC 2.501 (as amended) AOCS Cd 8b-90 (97) ISO 3961:1998	AOCS Cd 8b-90 (97) ISO 3961:1998
Named Animal Fats	Relative density	IUPAC 2.101 with the appropriate conversion factor	Note: Needs to be replaced with ISO/AOCS method for apparent density
Named Animal Fats	Refractive index	IUPAC 2.102 ISO 6320:1995	ISO 6320:1995; or AOCS Cc 7-25 (02)
Named Animal Fats	Saponification value	IUPAC 2.202 ISO 3657:1988	ISO 3657:2002; or AOCS Cd 3-25 (03)
Named Animal Fats	Unsaponifiable matter	IUPAC 2.401 (part 1-5) ISO 3596-1:1996 and Amendment 1 1997 ISO 3596-2:1988 and Amendment 1 1999	ISO 3596:2002 or ISO 18609: 2000; or AOCS Ca 6b-53 (01)
Named Animal Fats	Titre	IUPAC 2.121 ISO 935:1988	ISO 935:1988; or AOCS Cc 12-59 (97)