CODEX ALIMENTARIUS COMMISSION

Food and Agriculture Organization of the United Nations

World Health Organization

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REP17/FO

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION

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LIST OF ACRONYMS

AOCS	Association Oil Chemists Society
CAC	Codex Alimentarius Commission
CCCF	Codex Committee on Contaminants in Foods
CCEXEC	Executive Committee of the Codex Alimentarius Commission
CCFA	Codex Committee on Food Additives
CCFICS	Codex Committee on Food Inspection and Certification Systems
CCFL	Codex Committee on Food Labelling
CCMAS	Codex Committee on Methods of Analysis and Sampling
CL	Circular letter
CRD	Conference room document
EU	European Union
EWG	Electronic Working Group
FAO	Food and Agriculture Organization of the United Nations
GL	Guideline
GMP	Good Manufacturing Practice
GSCTFF	General Standard for Contaminants in Food and Feed
GSFA	General Standard on Food Additives
GSLPF	General Standard for Labelling of Prepackaged Food
MLs	Maximum Limits
NMR	Nuclear Magnetic Resonance Spectroscopy
PWG	Physical Working Group
USA	United States of America
USP-NF	The United States Pharmacopeia and The National Formulary
WHO	World Health Organization

INTRODUCTION

1. The twenty-fifth Session of the Codex Committee on Fats and Oils (CCFO) was held in Kuala Lumpur, Malaysia, from 27 February to 3 March 2017 at the kind invitation of the Government of Malaysia. The Session was chaired by Ms Noraini Dato' Mohd Othman, Senior Director for Food Safety and Quality of Ministry of Health Malaysia. The Session was attended by 41 member countries, one member organisation and seven observer organisations. A list of participants is given in Appendix I.

OPENING OF THE SESSION

2. Datuk Dr Noor Hisham Bin Abdullah, Director General of Health Malaysia, speaking on behalf of the Honourable Minister of Health Malaysia welcomed delegates. In his remarks, he called the attention of delegations to the advancement in production technology, growing production, trade and consumption of fats and oils worldwide, which will increase the need for CCFO to develop and update fats and oils standards. He underlined the importance of Codex in protecting the health of the consumers and ensuring fair practice in trade. He expressed the commitment of Malaysia towards the work of Codex in general and CCFO in particular.

Division of competence[1]

3. The Committee noted the division of competence between the European Union and its Member States, according to paragraph 5, Rule II of the Rules of Procedure of the Codex Alimentarius Commission.

ADOPTION OF THE AGENDA (Agenda Item 1)[2]

4. The Committee adopted the Provisional Agenda as its Agenda for the Session and agreed to consider the following matters under agenda item 15 Other Business:

- Revision of the *Standard for Olive Oils and Olive Pomace Oils* (CODEX STAN 33-1981), prepared by European Union (EU) and International Olive Council (IOC)
- Inclusion of free fatty acids as quality characteristics criteria for refined rice bran oils in the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999), prepared by Thailand
- Amendment to the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999): change in the temperature for the analysis of refractive index and apparent density of palm superolein, prepared by Malaysia

5. The Committee further agreed to establish an in-session Working Group (WG), chaired by China and co-chaired by Switzerland and working in English only, to consider matters referred from CCFA47 and CCFA48 (paras 18, 19 and 20 of CX/FO 17/25/2).

MATTERS REFERRED BY THE CODEX ALIMENTARIUS COMMISSION AND OTHER SUBSIDIARY BODIES (Agenda Item 2)[3]

6. The Committee noted that some matters were only for information, that several matters would be considered under other relevant agenda items and took the following decisions:

Monitoring of Standards Development

7. The Chair noted that the *Criteria for the establishment of work priorities* in the Procedural Manual as well as the requirements for addition of fats and oils to standards, developed by CCFO16[4], were sufficient for the purpose of developing standards for new fats and oils. However, she was of the opinion that there is a need to develop guidance to address other aspects of CCFO work such as revision of parameters or inclusion of new parameters and editorial amendments to existing fats and oils standards. In her view, such guidance would benefit Codex members in developing and submitting appropriate work proposals and improving the management of CCFO work.

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1 CRD1
2 CX/FO 17/25/1; CRD7 (Comments of Egypt; EU, India and GOED)
3 CX/FO 17/25/2, Inconsistent Terminology Related to the Term Flavour and Flavourings in Codex Texts (CRD3), Comments of Egypt, EU, India, GOED (CRD7), Malaysia (CRD21); Report of in-session WG (CRD25).
4 ALINORM99/70 para.34

8. Delegations generally agreed that the Procedural Manual provided CCFO with sufficient guidance on prioritization and management of its work; however, there was also general agreement with the Chair's view that there is still a need for guidance for the management of proposals on amendments to existing Standards. Delegations further commented that some aspects of the CCFH approach to manage its work could be relevant to CCFO such as mechanisms to review older Standards and requesting proposals for new work through a Circular Letter (CL).

Conclusion

9. The Committee agreed that:

(i) there was no need to develop new criteria similar to that of CCFH in view that there is sufficient guidance for the prioritization and management of its work;

(ii) For the purpose of developing standards for new fats and oils, current guidance in the Procedural Manual and requirements set out in CCFO16 are adequate and will continue to be applied; and

(iii) CCFO Secretariat (Malaysia) would prepare a discussion paper on the guidance needed for revision of parameters or inclusion of new parameters and editorial amendments to existing fats and oils standards, for consideration at its next session. The paper would take into account comments made at the session.

Food Additives

10. China, Chair of the in-session WG, introduced CRD25 which included recommendations in relation to:

- CCFA47/48 requests on the technological justification for the use of functional classes of food additives and individual food additives in products covered by Food Categories (FC) of the *General Standard for Food Additives* (GSFA) relevant to CCFO, i.e. FC 02.1.2 "Vegetable fats and oils" and FC 02.1.3 "Lard, tallow, fish oil, and other animal fats" (Recommendations 1-11);
- CCFA48 request on the inconsistent terminology to the use of the terms flavour and flavourings in CCFO Standards (Recommendation 12).

Discussion

11. The Committee supported all recommendations except Recommendation 8 for which it made the following comments and agreements.

Recommendation 8

12. The Committee noted that the in-session WG could not get an agreement on the use of emulsifiers in FC 02.1.2 as although their use in vegetable fats and oils was not generally supported, there were cases where they were used, such as to prevent the crystallization of oils at lower temperatures. Therefore, the Committee agreed to collect additional information in order to provide a more informed reply to CCFA.

Conclusion

13. The Committee agree to:

(i) Forward the replies to CCFA49 (Appendix II, part A) and inform CCFA49 that it needed more time to clarify the use of emulsifiers in FC 02.1.2

(ii) Establish an Electronic Working Group (EWG) led by the EU, open to all Members and Observers and working in English only to: (i) review food additive provisions in Standards for fats and oils (except the standard for fish oils) in order to align with the GSFA or propose modifications to the current entries of the GSFA if necessary; and (ii) further explore the technological justification for the use of emulsifiers in products covered by FC 02.1.2 and the existing standards for fats and oils (except the standard for fish oils) report the findings to CCFO26. It was noted that the report of the EWG should be made available to the Codex Secretariat at least three months before CCFO26.

(iii) Forward the amendment to the section on flavourings of the Standards to CAC40 for adoption (Appendix II, part B)

ACTIVITIES OF INTERNATIONAL ORGANIZATIONS RELEVANT TO THE WORK OF CCFO (Agenda Item 3)[5]

14. The Committee noted the information provided by FAO/WHO, the Fédération de l'industrie de l'huilerie de la CE (FEDIOL), the Federation of Oils, Seeds and Fats Associations International (FOSFA International) and the International Olive Oil Council (IOOC).

[5] CX/FO 17/25/3; CX/FO 17/25/3 Add.1

15. The Committee further noted that the matters from FAO/WHO, related to the request for scientific advice for the evaluation of the 23 substances for acceptable previous cargoes, would be considered under agenda item 9.

DRAFT STANDARD FOR FISH OILS (Agenda Item 4) [6]

16. Switzerland, Chair of the Physical Working Group (PWG), introduced the report on the draft standard for fish oils (CRD2), which had met immediately prior to the current session. She recalled, that the standard only applies to all types of fish oils that are used as ingredients in food or in food supplements, but it does not apply to foods or food supplements themselves, in which these fish oils are used. She further noted the key points discussed and agreements reached by the PWG. She highlighted that:

- the fatty acid ranges for anchovy oil, krill oil and wild salmon oil in Table 1 had been adjusted based on additional information on fatty acid composition of these oils;
- the inclusion of any new named fish oil from farmed fish species should be handled in the same way as oil from farmed salmon, by introducing a separate entry in Table 1 for such oils; and the labelling should specify the source of the raw material (wild or farmed);
- the USP-NF monograph specified for astaxanthin, a minimum content of 0.01%. As limited data on the astaxanthin content of krill oil was available, it was decided that further data should be collected in order to discuss a future inclusion of a minimal astaxanthin content in krill oil as a quality criteria;
- consideration was given to the reply to the question from CCMAS on the method for determination of phospholipids, and identification of methods for triglycerides.

17. The PWG discussed the difficulties using only the fatty acid ranges of Table 1 as measure to determine compliance of a fish oil with Section 2.1 of the standard. Specifically, the positive verification of the fish species used as raw material may not always be unequivocal. It was agreed that current practice to refer to supplementary information from traceability and certification systems could assist stakeholders (industry, control authorities). Further consideration should be given to work on this matter in close coordination with the ongoing work on food authenticity/integrity in CCFICS.

Discussion

18. The Committee considered the revised standard section by section, agreed with the proposals made by the PWG, and in addition considered the following aspects:

Authenticity of fish oils

19. Recalling the discussion in the PWG as presented above (para. 17) and recognizing that the *Format for Codex Commodity Standards* in the Procedural Manual did not allow for issues related to traceability and certification to be addressed in a commodity standard, some delegations expressed support for a discussion paper that outlines the problem and identifies those elements from traceability and certification systems that would encourage good practice and assist in applying the Standard.

20. Other delegations were of the view that such a discussion paper was premature, noting that CCFICS23 would start the discussion regarding food authenticity and food integrity. These delegations further noted the concerns regarding fatty acid profiles and use of other criteria to ensure authenticity were not limited to fish oils; and that the issue of traceability should be addressed in a broader manner. CCFICS23 should be informed on the concerns of CCFO to contribute to the discussion on food authenticity and food integrity.

21. It was agreed that the development of a discussion paper was premature. However, a CL should be sent out after the adoption of the standard encouraging members to monitor the application of the standard with respect to the conformity of named fish oils with the requirements (especially the fatty acid profile), its effect on trade and to bring this information to CCFO26. Based on that data the Committee will evaluate whether a revision of the fatty acid profiles for named fish oils is necessary and whether other aspects such as additional complementary criteria are needed. The Delegations of Chile and Switzerland offered to coordinate this work and present the information for consideration by CCFO26.

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[6] REP15/FO Appendix III; Report of PWG (CRD2); Comments of Brazil, Canada, Chile, EU, Norway, Peru, the USA, GOED, IFFO, (CX/FO 17/25/4rev), EU, Japan, Norway, Peru, Republic of Korea, GOED (CX/FO 17/25/4 Add.1), Chile (CRD4), Egypt, India, Thailand, GOED, ISDI (CRD8), Ecuador (CRD18); Nigeria (CRD20); and draft standard for Fish Oil – comments included (CRD17).

Contaminants

22. The Committee recalled that CCCF7 had agreed to consider the allocation of MLs for lead and arsenic in fish oils and whether the MLs should apply to total arsenic or inorganic arsenic as more appropriate for these products once the standard was finalized.

23. The Committee agreed to inform CCCF that the work on the standard was now completed and that CCCF should consider to develop maximum levels for arsenic and lead for inclusion into the GSCTF. Attention should be paid to the presence of inorganic arsenic in fish oils.

Section 8 Methods of Analysis

Determination of phospholipids

24. The Committee noted that conversion factors for the determination of phospholipids from phosphorus are being used in practice. However, the PWG was unable to recommend a single suitable conversion factor for fish oils and had instead recommended an NMR-based method for the determination of phospholipids.

25. AOCS informed the Committee that they were considering the validation of the method which might be adopted in the near future. The observer also proposed to look into the matter of conversion factors or to request CCMAS to recommend such a factor to allow the methods previously submitted for endorsement[7] to be used.

26. The Codex Secretariat recalled that CCMAS had previously indicated that identification of conversion factors was within the domain of commodity committees, but that a request could still be made if this would facilitate the endorsement of the previously submitted methods.

Determination of p-anisidine and determination of triglycerides

27. The Committee noted a proposal of an Observer for an additional method for the determination of anisidine, the European Pharmacopeia 2.5.36; and the proposal of the PWG for methods of analysis for determination of triglycerides following the addition of a provision for triglycerides in the standard.

Conclusion

28. The Committee agreed to:

(i) Forward the draft standard for Fish Oils (Appendix III) to CAC40 for adoption at Step 8;

(ii) Send the labelling provisions for endorsement by CCFL;

(iii) Send the methods of analysis for endorsement by CCMAS, along with clarification on phospholipids; and a request for CCMAS to consider a factor for the conversion of phosphorus to phospholipids;

(iv) Inform CCCF of the completion of its work and to reconfirm its request for CCCF to establishing ML for arsenic, in particular inorganic arsenic, and ML for lead in fish oil;

(v) Inform CCFICS of concerns of the CCFO with regard to authenticity of different oils and that consideration be given to this in their work on food authenticity/integrity;

(vi) Request the Codex Secretariat to issue a CL to request information to monitor the application of the standard with respect to the conformity of named fish oils with the requirements (especially the fatty acid profile) and its effect on trade; and

(vii) Request Chile and Switzerland to compile the information submitted in (vi) above and report to CCFO26.

PROPOSED DRAFT REVISION TO THE *STANDARD FOR OLIVE OILS AND OLIVE POMACE OILS* (CODEX STAN 33-1981): REVISION OF THE LIMIT FOR CAMPESTEROL (Agenda Item 5)[8]

29. Argentina, Chair of the EWG, introduced the agenda item and recalled that CCFO had discussed for several years the need to revise the limit for campesterol to take into account the natural variations in authentic olive oils due to the climatic, geographical and varietal differences. She briefly outlined the work undertaken by the EWG, which had considered a statistical analysis of a wide variety of data submitted by Members from authentic virgin and extra virgin olive oils with a campesterol level above 4%.

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7 AOCS Ca 12b-92 (phosphorus by direct graphite furnace atomic absorption spectrometry); AOCS Ca 12a-02 (colorimetric determination of phosphorous content in fats and oils); and Ca 20-99 (Analysis for phosphorus in oil by inductively coupled plasma optical emission spectroscopy)

8 CX/FO 17/25/5; Comments of Brazil, Canada, Chile, India, Peru, Uruguay, the USA (CX/FO 17/25/5 Add.1), EU, Egypt, India, Philippines, Turkey (CRD9), Nigeria (CRD20)

30. As a result of this work, the EWG had agreed to introduce a note to the limit for campesterol which allowed for a higher level of campesterol with stricter levels of stigmasterol, delta-7-stigmastenol and stigmastadienes than the existing levels in the Standard. Argentina noted that the EWG agreed on most of the parameters of the note except the levels of campesterol, for which the EWG had proposed two options, i.e. Option 1: level of >4.0% and ≤4.8%; and Option 2: level of >4.0% and ≤4.5%.

Discussion

31. Delegations generally supported Option 2 noting that the proposed revision was safeguarding the integrity of authentic olive oils while allowing the detection of fraudulent practice.

32. Other delegations supporting Option 2, noted that the proposed revision was combining the need to ensure market access for other authentic olive oils and to avoid the risk of fraud. They underlined the need to continue working on the revision of other parameters and methods of analysis as proposed under agenda item 15.

33. A number of delegations while supporting Option 1, which more accurately reflected global variability in campesterol concentrations due to climatic, geographic and varietal differences, were ready to support Option 2 as it was still more inclusive when compared to the current established limit noting that this Option also contributed to safeguarding the integrity of olive oils. The importance to consider in the future the need for countries to further revise these limits to ensure that the Standard does not exclude authentic olive oils was highlighted.

Conclusion

34. In view of the general support for the inclusion of the note as in Option 2, the Committee agreed to forward the proposed draft revision to the *Standard for Olive Oils and Olive Pomace Oils* (CODEX STAN 33-1981) (Appendix IV) to CAC40 for adoption at Step 5/8.

PROPOSED DRAFT REVISION TO THE *STANDARD FOR NAMED VEGETABLE OILS* (CODEX STAN 210-1999): ADDITION OF PALM OIL WITH HIGH OLEIC ACID (OXG) (Agenda Item 6)[9]

35. Colombia, Chair of the EWG, introduced the agenda item, and gave a general outline of the EWG report as well as the key areas covered by the proposal. He further informed the Committee that Colombia and Ecuador had refined the proposed draft based on additional information, as presented in CRD 6 and CRD10.

36. The Committee agreed to consider the original proposal (CX/FO 17/25/6 Appendix I) noting that it represented the position of the EWG members, and also agreed to first consider Section 3 “Essential composition and quality factors” before discussing Section 2.1 “Product definitions”, since the definition was based on fatty acid composition of the oil.

Discussion

Section 3 “Essential composition and quality factors”

37. The Committee agreed with the proposed parameters in Tables 1; 2; 3 and 4 with the exception of several parameters (i.e. C14:0, C16:0, C18:0, C18:1; C18:2, Iodine value and delta-tocopherol) which were amended, based on additional data and information submitted at the session.

Section 2.1 “Product definitions”

38. The Committee considered the product definition for Palm oil-high oleic acid and noted the divergent views on whether the use of the term “high oleic acid” was appropriate for the proposed range of oleic acid (48.0 – 58.0) or could be best described as “mid oleic acid”.

39. Delegations in support of the use of the term “high oleic acid” explained that high oleic acid oil was a relatively unsaturated oil, derived from hybrid species of palm and it has a high Iodine value. These delegations noted that there was no definition in Codex for “high oleic” or “mid oleic” and that the use of the term “high oleic acid palm oil” was intended for palm oil only and that comparison of oleic acid content should be restricted to vegetable oils derived from palm oil only.

[9] CX/FO 17/25/6; Comments of Canada, Ecuador, Peru, the USA (CX/FO 17/25/6 Add.1), Colombia and Ecuador (CRD6), Brazil, Egypt, EU, India, Philippines (CRD10), Nigeria (CRD20) Malaysia (CDR21); revised proposal from Colombia (CRD24).

40. Delegations in support of the use of the term “mid oleic acid” observed that the term “high oleic acid” was generally associated with relatively higher levels of oleic acid for vegetable oils; and that the proposed range for the “high oleic acid” for palm oil were not comparable to those of “high oleic acid” for safflowerseed oil and “high oleic acid” for sunflowerseed oils; and therefore, it would be better to categorise as “mid oleic acid palm oil". These delegations noted the need to examine in broad terms the impact of the use of term “Palm oil-high oleic acid” would have to other “high oleic acid” containing oils defined in the *Standard for Named Vegetable* Oils (CODEX STAN 210-1999) so as to ensure coherency and avoid confusion.

41. The Codex Secretariat clarified that there was no definition or agreed criteria for establishing whether an oil is “mid oleic acid” or “high oleic acid”. In view of the implication of labelling provisions for these oils, the Codex Secretariat recommended to seek CCFL advice on which criteria could be used to establish a claim for mid and high oleic acid oils.

Conclusion

42. The Committee noted that substantial progress had been made on the proposed draft revision (Section 3) and that the use of the term “high oleic acid palm oil” under product definition needed further consideration.

43. The Committee agreed to:

(i) Place the product definition in section 2.1 in square brackets;

(ii) Forward the proposed draft revision to the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999): Addition of Palm Oil with high Oleic Acid (OXG) (Appendix V) to CAC40 for adoption at Step 5.

(iii) Request CCFL advice on what might constitute high and mid oleic acid in vegetable oils.

PROPOSED DRAFT REVISION TO THE *STANDARD FOR NAMED VEGETABLE OILS* (CODEX STAN 210-1999): REVISION OF FATTY ACID COMPOSITION AND OTHER QUALITY FACTORS OF PEANUT OIL (Agenda Item 7)[10]

44. Argentina, Chair of the EWG, introduced the agenda item and briefly outlined the work undertaken. The Committee was informed that as a result of discussion during the EWG, only a limited number of parameters were proposed for revision.

Discussion

45. Delegations generally supported the proposed revision.

46. In response to the concerns regarding the revision of C22:1 due to negative health implications and the apparent inconsistency in the revision of C18:1 without corresponding adjustments to the values on relative density and iodine value, Argentina clarified that the proposals were based on the data submitted by members, and that no concern to these values had been raised in the EWG.

47. The Committee agreed that the values would include the first decimal point for consistency, and amended the values for C18:1 (from 35.0-80 to 35.0-80.0) and C22:1 (from ND - 0.55 to ND - 0.6) accordingly.

Conclusion

48. The Committee agreed to forward the proposed draft revision to the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999) (Appendix VI) to CAC40 for adoption at Step 5/8.

PROPOSALS FOR THE TRANSFER OF PROVISIONS, OTHER THAN THOSE IN TABLE 3 AND TABLE 4, FROM THE APPENDIX INTO THE MAIN BODY OF THE *STANDARD FOR NAMED VEGETABLE OILS* (CODEX STAN 210-1999) (Agenda Item 8)[11]

49. The Chair recalled that CCFO24 had agreed to: (i) retain the provisions in Tables 3 and 4 in the Appendix of the *Standard for Named Vegetable Oils* and that any further proposals for transferring provisions from the Appendix into the main body should be considered only after reviewing the parameters; and (ii) issue a CL asking whether provisions other than those in Tables 3 and 4 should be transferred into the main body for consideration at the current session.

Discussion

Proposals for the transfer of provisions other than those in Table 3 and Table 4

50. The Committee agreed to retain the provisions other than those in Tables 3 and 4 in the Appendix.

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10 CX/FO 17/25/7; Comments of Brazil, Canada, Kiribati, Peru, the USA (CX/FO 17/25/7 Add.1); Egypt, EU, India (CRD11)

11 Replies from Canada (CX/FO 17/25/8); Comments of EU, India, Philippines (CRD12); Malaysia (CRD21)

Proposals for the transfer of provisions of Table 3 and Table 4

51. A number of delegations were of the view that only those provisions in Tables 3 and 4 that were critical to the identity and authenticity of vegetables oils could be transferred to the main body and that prior to their transfer, it was necessary to update the values to reflect current production practices. These delegations further noted that: the revision should also consider if some parameters could be eliminated; careful consideration should be given to the impact of transferring the provisions on production and trade; and criteria should be developed for the revision of the parameters.

52. Other delegations were of the view that since the fatty acid composition, included in the main body of the Standard, was the most comprehensive parameter to establish the identity and authenticity of vegetable oils there was no need to transfer other parameters from the Appendix. These delegations also noted the massive work and the resource implications a comprehensive review of the concerned parameters would mean, and the possible negative impact of this undertaking on the current workload and priorities of the Committee.

Conclusion

53. As there was no clear support to transfer provisions of Tables 3 and 4 in the Appendix into the main body of the *Standard for Named Vegetable Oils*, the Committee agreed to discontinue consideration of this agenda item.

REVIEW OF THE LIST OF ACCEPTABLE PREVIOUS CARGOES (APPENDIX II TO RCP 36-1987) (Agenda Item 9)[12]

54. The Committee recalled that at its previous session, it was agreed to issue a CL to invite interested members to propose further amendments to the List of Acceptable Previous Cargoes and to establish an EWG to consider the submitted proposals. The Committee was informed that two members had replied to the CL. However as no new proposal was submitted, the EWG did not proceed.

55. For the 23 substances forwarded to FAO/WHO for evaluation, the Committee noted that the request had been included in the "Status of Requests for FAO/WHO Scientific Advice[13]" which was presented at CAC38 and CAC39. The Committee further noted that the evaluation will require an expert meeting for which extra-budgetary resources and information/data submitted by members were needed, and that at the current workload of FAO and WHO scientific advice programme, the work could start in 2019, provided the necessary funds are made available.

Conclusion

56. The Committee agreed to:

(i) Request the Codex Secretariat to issue a CL inviting interested members and observers to propose further amendments to Appendix 2: List of Acceptable Previous Cargoes of CAC/RCP 36-1987;

(ii) Establish an EWG, led by Malaysia and working in English only with the following Terms of Reference:

- Consider proposals on new substances to be added to the list provided that such proposals are supported by adequate and relevant information.
- Prioritise substances to be submitted to FAO and WHO for evaluation.
- Consider proposals to remove substances from the list in light of new data.
- Prepare a report for consideration by CCFO26. It was noted that the report of the EWG should be made available to the Codex Secretariat at least three months before CCFO26.

(iii) Convene an in-session Working Group, if needed, chaired by Malaysia, to consider the report of the EWG and report back to the Committee.

57. The Committee further agreed to inform FAO/WHO that the evaluation of 23 substances was a matter of priority for CCFO and to encourage FAO/WHO to evaluate the 23 substances as soon as possible.

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12 CX/FO 17/25/9 Not issued; CX/FO 17/25/3 Add.1 paras 5-8

13 CX/CAC 15/38/16 and CX/CAC 16/39/15

DISCUSSION PAPER ON THE REVISION OF LIMITS OF OLEIC AND LINOLEIC ACIDS IN SUNFLOWERSEED OILS IN THE *STANDARD FOR NAMED VEGETABLE OILS* (CODEX STAN 210-1999) (Agenda Item 10)[14]

58. Argentina, Chair of the EWG, introduced the agenda item and explained that the proposal was to revise the limits of oleic and linoleic acids in sunflowerseed oils based on the scientific evidence and data provided to the EWG. She reiterated that scientific studies demonstrated that high temperatures influence the fatty acid ranges of sunflowerseed oil, especially the oleic and linoleic acids produced from sunflowers grown in new production areas warmer than the traditional ones. This made it difficult to assign a denomination to oils that did not fit the ranges for oleic and linoleic acid in the current Standard which associates the product to the seed from which it is extracted in addition to referring to its composition. Revision of CODEX STAN 210-1999 would allow for these oils to also be accommodated in the Standard and to enter the international trade.

59. The Delegation reminded the Committee that discussion on this matter has been ongoing since 2009, when Argentina first raised the matter and that a decision should be taken on the proposal to start the new work since this delay, contrary to the objectives of Codex, had negative effects on some producing countries.

Discussion

60. Many delegations supported the new work and reiterated the arguments presented by Argentina and expressed the view that the Standard should take into account the needs of all member countries.

61. The EU and its member states present at the session indicated that they did not have a problem with the current Standard regarding sunflowerseed oil and did not see a need to revise it. However, they were not opposed to discuss possible ways of accommodating the concerns of Argentina, provided that the revision would not compromise the identity and authenticity of the traditional oils nor obscure the distinction between traditional and “mid-oleic acid” sunflowerseed oils.

62. Another delegation was of the opinion that revision of the Standard would compromise the authenticity of traditional oils and noted that changing the ranges for oleic and linoleic acids could result in overlap and difficulty in differentiating between the traditional and other sunflowerseed oils. The Standard also made it clear that the different types of oils should originate from the specific seed types as specified in section 2.1.

63. Based on informal discussion of interested countries, it was agreed that the purpose of the proposed new work was to adapt the composition parameters for oleic and linoleic acids to reduce the existing gaps of the ranges for these two fatty acids between sunflowerseed and “mid-oleic acid” sunflowerseed oil and that there would be no overlaps in the ranges. Furthermore that it was necessary to consider also the definitions in 2.1 so as to delink the product from the type of seed from which it is made.

64. One delegation proposed to exclude in the scope of the proposed new work potential ways of achieving reduction of existing gaps in the fatty acid composition of different types of sunflowerseed oils.

65. Noting the general agreement for the new work, the Committee proceeded to revise the project document, in particular to clarify the scope and purpose of the work (Section 1) and the main aspects to be covered (Section 3).

Conclusion

66. The Committee agreed to:

(i) Start new work on the revision of limits of oleic and linoleic acids in sunflowerseed oils and the associated definitions in 2.1;

(ii) Submit the project document to the CAC40 for approval as new work (Appendix VII); and

(iii) Establish an EWG, chaired by Argentina, and co-chaired by Brazil and EU, and working in English only, to prepare the proposed draft revision of the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999) for circulation for comments at Step 3 and consideration at CCFO26, subject to CAC40 approval of the new work. It was noted that the report of the EWG should be made available to the Codex Secretariat at least four months before CCFO26.

[14] CX/FO 17/25/10; Comments of Brazil, Egypt, EU, India, Russian Federation (CRD13)

DISCUSSION PAPER ON THE INCLUSION OF PROVISIONS FOR WALNUT OIL, ALMOND OIL, HAZELNUT OIL, PISTACHIO OIL, FLAXSEED OIL AND AVOCADO OIL IN THE *STANDARD FOR NAMED VEGETABLE OILS* (CODEX STAN 210-1999) (Agenda Item 11)[15]

67. Iran, Chair of the EWG, introduced the agenda item, and explained that the document had been updated based on the additional information provided by members.

Discussion

68. The Committee generally supported the proposed new work and noted the views expressed by delegations that the proposed six oils, though not all of them are major oils from the perspective of the current trade volume, were emerging as high value and nutritionally important oils in international trade; and their trade data were still limited. It was also noted that these "specialty oils" needed to be regulated in view of their growing importance in the international trade. The need for setting relevant values in the standard based on robust data was also noted.

69. The Committee noted that the project document required revision to better reflect the global trend in trade for these six oils and to include missing information required under *Criteria for the Establishment of Work Priorities* in Procedural Manual and the requirements established by CCFO16[16].

Conclusion

70. The Committee agreed:

(i) To start new work on the inclusion of the provision for walnut oil, almond oil, hazelnut oil, pistachio oil, flaxseed oil and avocado oil in the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999);

(ii) That Iran with interested countries (Chile, India, Spain, Turkey and the United States of America (USA)) to revise and submit a revised project document to CAC40 to approval as new work through the Codex Secretariat which complies with the *Criteria for the Establishment of Work Priorities* in the Procedural Manual and the requirements established by CCFO16 (by end of April 2017);

(iii) To establish an EWG, chaired by Iran and co-chaired by India, and working in English only, to prepare the proposed draft provisions for walnut oil, almond oil, hazelnut oil, pistachio oil, flaxseed oil and avocado oil for inclusion in the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999) for circulation for comments at Step 3 and consideration at CCFO26, subject to CAC40 approval of the new work. It was noted that the report of the EWG should be made available to the Codex Secretariat at least four months before CCFO26.

DISCUSSION PAPER ON THE REPLACEMENT OF ACID VALUE WITH FREE FATTY ACIDS FOR VIRGIN PALM OILS IN THE *STANDARD FOR NAMED VEGETABLE OILS* (CODEX STAN 210-1999) (Agenda Item 12)[17]

71. Malaysia introduced the discussion paper and explained that the purpose of the proposed new work was to revise the way acidity of virgin palm oils was expressed in the Appendix of the S*tandard for Named Vegetable Oils* and to include a similar provision for crude palm kernel oil. The Delegation explained that since the free fatty acid (FFA) of palm oil is expressed as palmitic acid, being the major fatty acid of palm oils, there would be a mismatch of the acidity expressed as acid value of 10.0 mg KOH/g oil (in the Standard) with the specification of FFA 5% (as palmitic acid) currently in practice in the international trade of palm oil in view that the maximum level of 10 mg KOH/g of oil of acid value is only equivalent to the specification of FFA 5% (as oleic acid). Since this situation was creating difficulties in the trade of this commodity, Malaysia was proposing the new work.

72. The Delegation further presented the revised project document (CRD22) and explained that: (i) the title had been modified to read "replacement of acid value with free fatty acids for virgin palm oil and inclusion of free fatty acids for crude palm kernel oil"' to better reflect the scope of the proposed new work; and (ii) the specific values had been removed as they would be discussed after the new work approval.

Discussion

73. In view of the general support for starting new work, the Committee considered the project document and agreed with its content.

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15 CX/FO 17/25/11; Comments of EU, India and Turkey (CRD14), Ecuador (CRD18), Nigeria (CRD20)
16 ALINOM 99/17
17 CX/FO 17/25/12rev; Comments of India, EU, Philippines, Thailand (CRD15); Revised proposal from Malaysia (CRD22)

74. On the suggestion to consider extending the replacement of the acid value with free fatty acids to the other two oils listed under section 1 of the Appendix (i.e. refined oils, cold pressed and virgin oils), the Committee noted that under the current global trade it was normal practice for the main quality specifications of the virgin palm oil to be expressed in terms of the content of free fatty acid; however it was not clear whether this was done for the other oils. Therefore, the Committee agreed not to broaden the scope of the new work noting that members could always propose the revision of this parameter if necessary.

Conclusion

75. The Committee agreed to:

(i) Start new work on the replacement of acid value with free fatty acids for virgin palm oil and inclusion of free fatty acids for crude palm kernel oil in Section 1 of Appendix in the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999);

(ii) Submit the project document to CAC40 for approval as new work (Appendix VIII); and

(iii) Request Malaysia to prepare the proposed draft revision of the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999) for circulation for comments at Step 3 and consideration at CCFO26, subject to CAC40 approval of the new work. It was noted that the proposed draft revision should be made available to the Codex Secretariat at least four months before CCFO26.

DISCUSSION PAPER ON THE INCLUSION OF QUALITY PARAMETERS FOR CRUDE RICE BRAN OIL IN THE *STANDARD FOR NAMED VEGETABLE OILS* (CODEX STAN 210-1999) (Agenda Item 13)[18]

76. India in introducing the agenda item clarified that the intent of the proposed new work was to introduce a "Note" in the *Standard for Named Vegetable Oils* to indicate that the fatty acid composition for rice bran oil in Table 1 is also applicable to the crude rice bran oil. The Delegation noted that reference to the crude form of the oil was already included in the Appendix (Tables 2, 3 and 4) and that the intention was not to broaden the scope of the Standard which applies to "vegetable oils described in Section 2.1 presented in a state for human consumption".

Discussion

77. Delegations generally supported the proposed new work but requested clarification on: the use of crude rice bran oils (i.e. whether it was used for human consumption); the justification for the proposed new work (i.e. why this new work was proposed); the scientific validity of the proposed "Note" (i.e. whether refining could affect the fatty acid composition of crude rice bran oil); the implication of introducing such a note to other part of the Standard. The need to better define the term "crude" as well as the appropriateness to include the proposed note in the main text were also raised.

78. Referring to CRD26 India further clarified that crude rice bran oil was not an oil ready for human consumption but rather an "edible grade oil" obtained by solvent extraction methods which required further processing or refinement to remove unwanted impurities and reduce acid values before being ready to be offered for direct human consumption; that the some producers of crude rice bran oil were unable to trade this commodity due to the lack of clarity in the Standard with regard to the applicability of the fatty acid composition for crude rice bran oil; that it was statistically proven that the fatty acid composition of crude rice bran oil and (refined) rice bran oil were the same.

79. With regard to the implication of introducing such a "Note" and the applicability of the fatty acid composition also to crude rice bran oils, the Committee noted that CCFO had already addressed the issue of the crude oils at several sessions, including at CCFO16 where a discussion on whether the title of Table 1 should apply to crude or refined oils [19] and CCFO19/20 decision regarding the inclusion of several entries for crude oils, including crude rice bran oil, in Tables 2, 3 and 4.[20] CCFO16 noted that in general, there was no significant difference between the GLC ranges of crude and refined oils. It was also noted by this Session that there were enough general scientific knowledge and expert understanding that refining of crude fats and oils does not affect the fatty acid composition of crude oils and that from a scientific and technical view-point the fatty acid ranges in Table 1 were also applicable to crude oils intended for further processing to present them in a state for human consumption.

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[18] CX/FO 17/25/13; Comments of Philippines (CRD16); Clarification on Agenda Item 13 (CDR26)

[19] In respect to this question, CCFO16 "noted that in general there was no significant difference between the GLC ranges of crude and refined oils, and agreed to retain the current title at this stage, while noting that this question could be further considered at a later date." (ALINORM 99/17, para.42)

[20] CCFO19 (ALINORM 05/28/17, para. 40); CCFO20 (ALINORM 07/30/17, para. 70)

80. Some delegations questioned the need to make reference to crude rice bran oil in view that the scope of the standard applies to vegetable oils presented in a state for human consumption. It was clarified that Table 1 in the main body is for oils intended for human consumption and is within the scope of the standard, whilst inclusion of other quality and composition factors for crude oils in Appendix of the standard is to cater for current trade practices in crude oils.

81. Regarding the placement of the "Note", the Committee noted that it was more appropriate to have this "note" included in the Appendix where data on crude oils are included.

Conclusion

82. In view of the above discussion and clarification provided, and recognising that the inclusion of the "Note" on the applicability of the fatty acid composition of rice bran oil to the crude form of the oil was not intended to broaden the scope of the *Standard for Named Vegetable Oils* but to provide clarity in the trade of crude rice bran oil, the Committee agreed to:

(i) Include the following text in Section 2 of the Appendix of *Standard for Named Vegetable Oils* "For the fatty acid range of crude rice bran oil not intended for direct human consumption the ranges as given for rice bran oil in Table 1 apply";

(ii) Forward the proposed amendment (Appendix IX) to CAC40 for adoption.

83. Recalling the conclusion of CCFO16 to consider the question of the applicability of Table 1 fatty acid composition to crude oils at a later date, the Committee agreed to:

(i) Establish an EWG, chaired by USA with the assistance of AOCS, working in English only, to prepare a discussion paper on the applicability of the fatty acid composition of other oils listed in Table 1 in relation to their corresponding crude form; and present the findings for CCFO26 consideration. It was noted that the report of the EWG should be made available to the Codex Secretariat at least three months before CCFO26.

DISCUSSION PAPER ON THE INCLUSION OF UNREFINED EDIBLE TALLOW IN *THE STANDARD FOR NAMED ANIMAL FATS* (CODEX STAN 211-1999) (Agenda Item 14)[21]

84. The Committee postponed discussion of this agenda item to CCFO26 and noted that Australia was still actively collecting data and information on unrefined edible tallow, and that a discussion paper and project document proposing the addition of new fats in the *Standard for Named Animal Fats* (CODEX STAN 211-1999) would be prepared and submitted for consideration at CCFO26.

85. The Chair reminded that the requirements of CCFO16 also applied to the addition of new fats in *the Standard for Named Animal Fats* (CODEX STAN 211-1999).

OTHER BUSINESS (Agenda Item 15)

Proposal on Revision of the *Standard for Olive Oils and Olive Pomace Oils* (CODEX STAN 33-1981)[22]

86. EU introduced CRD5 and noted that the *Standard for Olive Oils and Olive Pomace Oils* (CODEX STAN 33-1981) had not been reviewed in the last 15 years, yet there had been a lot of developments in technology and science; expansion in areas of cultivation, production and increase in volumes of trade and in terms of value. It was further explained that the new work would focus on the revision of Section 3 (quality and composition), Section 8 (update the method of analysis) and the Appendix.

Discussion

87. Delegations generally supported the proposal noting that the revision would accommodate greater variability of the oils coming from new and traditional producing countries; provide more effective tools to combat fraud and facilitate trade.

88. The Committee considered the project document section by section, made editorial amendments and clarified that the proposed work would take into account the needs of Codex members, the latest technological knowledge and scientific progress of the sector in order to facilitate trade, promote consumer protection and facilitate the harmonization of national legislation with Codex.

Conclusion

89. The Committee agreed to:

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21 CX/FO 17/25/14 Not issued

22 Proposals from EU and IOC (CRD5)

(i) Start new work on the revision of Sections 3, 8 and the Appendix of the *Standard for Olive Oils And Olive Pomace Oils* (CODEX STAN 33-1981);

(ii) Submit the project document to CAC40 for approval as new work (Appendix X);

(iii) Establish an EWG, chaired by Spain, co-chaired by Argentina and Canada, and working in English only, to prepare the proposed draft revisions of the *Standard for Olive Oils and Olive Pomace Oils* (CODEX STAN 33-1981) for circulation for comments at Step 3 and consideration at CCFO26, subject to CAC40 approval of the new work. It was noted that the report of the EWG should be made available to the Codex Secretariat at least four months before CCFO26;

(iv) Convene a PWG, chaired by Spain, and co-chaired by Argentina and Canada open to all members and observers and working in English only, and meeting immediately prior to CCFO26 to consider the report of the EWG and comments submitted.

Inclusion of Free Fatty Acids as Quality Characteristics Criteria for Refined Rice Bran Oils in the *Standard for Named Vegetable Oil* (CODEX STAN 210-1999)[23]

90. Thailand presented CRD19 and explained that in refined rice bran oil the most critical quality parameter was free fatty acids and or acid value and that these two parameters were currently being used in trade. However in the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999) only acid value was listed as the parameter for determination of the acidity of refined rice bran oil. To reflect the current industry and trade practice of rice bran oil, Thailand proposed to amend Appendix 1 to include: free fatty acid for refined rice bran oil (under quality characteristics) and a method for determination of acidity (under methods of analysis).

Conclusion

91. In view of general support, the Committee requested Thailand to prepare a discussion paper including a project document based on the guideline on the application of the *Criteria for the establishment of work priorities* in the Procedural Manual, for consideration at CCFO26.

Change in the Temperature for the Analysis of Refractive Index and Apparent Density of Palm Superolein, the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999)[24]

92. Malaysia introduced CRD23 and explained that when the refractive index (RI) and apparent density for Palm superolein are determined at an experimental temperature of 40°C as stated in the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999) the oil did not comply with the stated ranges for these parameters. However at an experimental temperature of 30°C it was possible to obtain results that fell within the stated ranges of the standard. The Delegation proposed that CCFO consider amending the Standard to enable the parameters to be determined at 30°C.

Conclusion

93. There was support for this proposal. However, in view of its late availability and the need of some countries for more time to examine the proposal, the Committee agreed to request the Codex Secretariat to issue a CL inviting comment on the proposals presented in CRD23 for consideration at CCFO26.

DATE AND PLACE OF THE NEXT SESSION (Agenda Item 16)

94. The Committee was informed that the 26th Session was scheduled to be held in Malaysia tentatively from 25 February to 1 March 2019, the final arrangements being subject to confirmation by the host government in consultation with the Codex Secretariat.

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23 Proposals from Thailand (CRD19)

24 Proposals from Malaysia (CRD23)

APPENDIX I

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LISTE DES PARTICIPANTS
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Appendix II

FOOD ADDITIVES

PART A – CCFO25 Replies to CCFA

Use of Antioxidants in FC 02.1.2 "Vegetable oils and fats"

In general, the use of antioxidants is technologically justified in food category 2.1.2 (vegetable oils and fats), except virgin oils and fats. Virgin oils and cold pressed oils do not require addition of any food additives (including antioxidants) as indicated in the commodity standards falling under the category 02.1.2 – i.e. CODEX STAN 19-1981, CODEX STAN 33-1981 and CODEX STAN 210-1999. The use of food additives in such oils is not needed because it could change the nature of oils and mislead the consumer.

Use of lecithin (INS322 (i)) in FC 02.1.2 "Vegetable oils and fats"

Lecithin is widely used as an antioxidant in vegetable oils and fats, and/or as an antioxidant synergist in combination with tocopherols. The use of lecithin in vegetable oils and fats is technologically justified, except for virgin oils and olive oils.

Use of citrates (INS 333 (ii)) and INS 332 (ii)

Like other citrates, tricalcium citrate (INS 333(ii)), tripotasium citrate (INS 332(ii)) are technologically justified as antioxidant synergists in products conforming to CODEX STAN19-1981 and CODEX STAN 210-1999.

Since only tocopherols can be used and no citrates are accepted in the products confirming to CODEX STAN 33-1981, the use of tricalcium citrate (INS 333(ii)) and tripotassium citrate (INS 332(ii)) is not technologically justified in this product.

Use of Lecithin in CS 19-1981 and CS 211-1999

Since many antioxidants are included in CODEX STAN 19-1981 and CODEX STAN 211-1999, lecithin could be used as an alternative to other antioxidants or for its synergic effect with other antioxidants. Lecithin may be used at levels up to 30,000 mg/kg.

Technological function of mono- and diglycerides of fatty acids (INS 471)

Mono- and di-glycerides of fatty acids (INS 471) have been included in the draft standard for fish oil as emulsifier for use at GMP where they facilitate incorporation of flavourings and antioxidants. Mono- and diglycerides of fatty acids (INS 471) may be used as antifoaming agent in oils and fats conforming to CODEX STAN 19-1989 for deep frying as an alternative to polydimethylsiloxane (INS 900a).

Technological function of citrates

Both citrates and sodium alginate (INS 401) are not in the standard for fish oils as their use is not technologically justified in these products.

Use of acidity regulators in FC 02.1.2

The use of acidity regulators in food category 2.1.2 is not technologically justified.

Use of emulsifiers in FC 02.1.3

The use of emulsifiers in food category 2.1.3 (excluding fish oils) is not technologically justified.

Use of acidity regulators in FC 2.1.3

The use of acidity regulators in food category 2.1.3 is not technologically justified

PART B – for CAC40 adoption

To replace Section 3.3. of CODEX STAN 19-1981, Section 4.1 of CODEX STAN 210-1999 and Section 4.6 of CODEX STAN 256-2007 with the following:

Flavouring

The flavourings used in products covered by this standard shall comply with the Guidelines for the Use of Flavourings (CAC/GL 66-2008).

Appendix III

DRAFT STANDARD FOR FISH OILS

(N09-2011)

(at Step 8)

1. Scope

This Standard applies to the fish oils described in section 2 that are presented in a state for human consumption. For the purpose of this Standard, the term fish oils refers to oils derived from fish and shellfish as defined in section 2 of the *Code of Practice for Fish and Fishery Products* (CAC/RCP 52-2003)[1]. This standard only applies to fish oils used in food and in food supplements where those are regulated as foods.

2. Description

Fish oils means oils intended for human consumption derived from the raw material as defined in Section 2 of the *Code of Practice for Fish and Fishery Products* (CAC/RCP 52-2003). Processes to obtain fish oil for human consumption may involve, but are not limited to, extraction of crude oil from raw material and refining of that crude oil. *Fish oils* and *concentrated fish oils* are primarily composed of glycerides of fatty acids whereas *concentrated fish oils ethyl esters* are primarily composed of fatty acids ethyl esters. Fish oils may contain other lipids and unsaponifiable constituents naturally present.

Crude fish oils and crude fish liver oils are oils intended for human consumption after they have undergone further processing, e.g. refining and purification and have to comply with section 3.1, as applicable, as well as with sections 4, 6.1 and 7. Fish oils intended for direct human consumption shall comply with all sections of this standard.

The refined fish oil production process typically includes several steps such as repeated heating at high temperatures as well as alkali/ acid treatments and repeated removal of the water phase. Fish oils may also be subjected to processing steps (e.g. solvent extraction, saponification, re-esterification, trans-esterification).

2.1 Named fish oils are derived from specific raw materials which are characteristic of the major fish or shellfish taxon from which the oil is extracted.

2.1.1 Anchovy oil is derived from *Engraulis ringens* and other species of the genus *Engraulis* (*Engraulidae*).

2.1.2 Tuna oil is derived from the species of the genus *Thunnus* and from the species *Katsuwonus pelamis* (*Scombridae*)**.**

2.1.3 Krill oil is derived from *Euphausia superba*. The major components are triglycerides and phospholipids.

2.1.4 Menhaden oil is derived from the genera *Brevootia* and *Ethmidium* (*Clupeidae*).

2.1.5 Salmon oil is derived from the family *Salmonidae*.

2.2 Fish oils (unnamed) are derived from one or more species of fish or shellfish. This includes also mixtures with fish liver oils.

2.3 Named fish liver oils are derived from the livers of fish and are composed of fatty acids, vitamins or other components that are representative of the livers from the species from which the oil is extracted.

2.3.1 Cod liver oil is derived from the liver of wild cod, *Gadus morhua* L and other species of *Gadidae*.

2.4 Fish liver oil (unnamed) are derived from the livers of one or more species of fish.

2.5 Concentrated fish oils are derived from fish oils described in Sections 2.1 to 2.4 which have been subjected to processes that may involve, but are not limited to, hydrolysis, fractionation, winterization and/or re-esterification to increase the concentration of specific fatty acids.

2.5.1 Concentrated fish oil contains 35 to 50 w/w % fatty acids as sum of C20:5 (n-3) eicosapentaenoic acid (EPA) and C22:6 (n-3) docosahexaenoic acid (DHA).

2.5.2 Highly concentrated fish oil contains more than 50 w/w % fatty acids as sum of EPA and DHA.

2.6 Concentrated fish oils ethyl esters are derived from fish oils described in Section 2.1 to 2.4 and are primarily composed of fatty acids ethyl esters.

[1] *Fish:* Any of the cold-blooded (ecothermic) aquatic vertebrates. Amphibians and aquatic reptiles are not included. *Shellfish:* Those species of aquatic molluscs and crustaceans that are commonly used for food.

2.6.1 Concentrated fish oil ethyl esters contain fatty acids as esters of ethanol of which 40 to 60 w/w % are as sum of EPA and DHA.

2.6.2 Highly concentrated fish oil ethyl esters contain fatty acids as esters of ethanol of which more than 60 w/w % are as sum of EPA and DHA.

3. Essential composition and quality factors

3.1 GLC ranges of fatty acid composition (expressed as percentages of total fatty acids)

Sample of fish oils described in sections 2.1 and 2.3 shall fall within the appropriate ranges specified in Table 1. Supplementary criteria, for example national geographical and/or climatic variations may be considered, as necessary, to confirm that a sample is in compliance with the Standard.

3.2 Other essential compositional criteria

For oil from *Engraulis ringens* (2.1.1) the sum of EPA and DHA has to be at least 27 % (expressed as percentage of total fatty acids).

For krill oils (2.1.3) the content of phospholipids shall be at least 30 w/w %.

Concentrated fish oils (2.5.1) and highly concentrated fish oils (2.5.2) shall contain at least 50 w/w % of fatty acids as sum of EPA and DHA in the form of triglycerides and/or phospholipids.

3.3 Quality parameters

Note: this section does not apply to flavoured fish oils where the added flavourings may interfere with the analytical determination of oxidation parameters.

3.3.1 Fish oils, fish liver oils, concentrated fish oils, and concentrated fish oils ethyl esters (Section 2.1. to 2.6) with the exception of oils dealt with in Section 3.3.2 shall comply with the following:

Acid value	≤ 3 mg KOH/g
Peroxide value	≤ 5 milliequivalent of active oxygen/kg oil
Anisidine value	≤ 20
Total oxidation value (ToTox)[2]	≤ 26

3.3.2 Fish oils with a high phospholipid concentration of 30% or more such as krill oil (Section 2.1.3) shall comply with the following:

Acid value	≤ 45 mg KOH/g
Peroxide value	≤ 5 milliequivalent of active oxygen/kg oil

3.4 Vitamins

Fish liver oils except of deep sea shark liver oil (Sections 2.3 and 2.4) shall comply with following:

Vitamin A	≥ 40 µg of retinol equivalents/ml of oil
Vitamin D	≥ 1.0 µg/ml

Losses during processing may be restored (see Section 2.4. of CAC/GL 9-1987) by the addition of:

Vitamin A and its esters

Vitamin D

Maximum levels for vitamins A and D should be in accordance with the needs of each individual country including, where appropriate, the prohibition of the use of particular vitamins.

[2] Total oxidation value (ToTox) = 2 x Peroxide value + 1 x Anisidine value

Explanatory note: Oxidation of fish oils is a sequential process: following an initial raise of peroxide value, the anisidine value rises. The peroxide value is therefore a parameter for primary oxidation products, the anisidine value for secondary oxidation products. The parameter ToTox, which means "total oxidation of oil", was established to avoid that both of these oxidation products are present at maximum levels. The maximum allowed ToTox value is set separately and lower than the sum of the individual possible maximum limits set for peroxide and anisidine values.

4. Food Additives

Antioxidants, sequestrants, antifoaming agents, and emulsifiers used in accordance with Tables 1 and 2 of the *General Standard for Food Additives* (CODEX STAN 192-1995), in food category *02.1.3 Lard, tallow, fish oil, and other animal fats* are acceptable for use in foods conforming to this standard.

The following additives may be used in addition:

INS	Additive name	Maximum level
Antioxidant		
300	Ascorbic acid, L-	GMP
304, 305	Ascorbyl esters	2500 mg/kg, as ascorbyl stearate
307a, b, c	Tocopherols	6000 mg/kg, singly or in combination
Emulsifier		
322 (i)	Lecithin	GMP
471	Mono- and di-glycerides of fatty acids	GMP

The flavourings used in products covered by this standard should comply with the *Guidelines for the Use of Flavourings* (CAC/GL 66-2008).

5. Contaminants

The products covered by this Standard shall comply with the Maximum Levels of the *General Standard for Contaminants and Toxins in Food and Feed* (CODEX STAN 193-1995).

The products covered by this Standard shall comply with the maximum residue limits for pesticides and/or veterinary drugs established by the Codex Alimentarius Commission.

6. Hygiene

6.1 General hygiene

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 *General Principles of Food Hygiene* (CAC/RCP 1-1969), the *Code of Practice for Fish and Fishery Products* (CAC/RCP 52-2003), and *Code of Hygienic Practice for the Storage and Transport of Edible Oils and Fats in Bulk* (CAC/RCP 36-1987).

6.2 Microbiological criteria

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

7. Labelling

The requirements of the *General Standard for the Labelling of Prepackaged Foods* (CODEX STAN 1-1985) and of the *Guidelines on Nutrition Labelling* (CAC/GL 2-1985) apply to this standard.

7.1 Name of the food

The name of the fish oil shall conform to the descriptions given in Section 2 of this Standard. For salmon oil the label shall specify the source of the raw material (wild or farmed).

7.2 Labelling on 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.

For crude fish oils and crude fish liver oils the label shall indicate that these oils are intended for human consumption only after they have undergone further processing**.**

7.3 Other labelling requirements

For fish liver oils (Sections 2.3 and 2.4) the content in vitamin A and vitamin D, naturally present or restored, shall be given if required by country of retail sale.

For all fish oils covered by this standard the content of EPA and DHA shall be given if required by country of retail sale.

8. Methods of Analysis and Sampling

For checking the compliance with this standard, the methods of analysis and sampling contained in the Recommended Methods of Analysis and Sampling (CODEX STAN 234-1999) relevant to the provisions in this standard, shall be used

Table 1: Fatty acid (FA) composition of named fish oil and fish liver oil categories as determined by gas liquid chromatography from authentic samples (expressed as percentage of total fatty acids) (see Section 3.1 of the Standard)

Fatty acids	Anchovy (Section 2.1.1)	Tuna (Section 2.1.2)	Krill (Section 2.1.3)	Menhaden (Section 2.1.4)	Salmon (Section 2.1.5)		Cod Liver (Section 2.3.1)
					Wild	Farmed	
C14:0 myristic acid	2.7-11.5	ND-5.0	5.0-13.0	8.0-11.0	2.0-5.0	1.5-5.5	2.0-6.0
C15:0 pentadecanoic acid	ND-1.5	ND-2.0	NA	ND-1.0	ND-1.0	ND-0.5	ND-0.5
C16:0 palmitic acid	13.0-22.0	14.0-24.0	17.0-24.6	18.0-20.0	10.0-16.0	6.5-12.0	7.0-14.0
C16:1 (n-7) palmitoleic acid	4.0-12.6	ND-12.5	2.5-9.0	9.0-13.0	4.0-6.0	2.0-5.0	4.5-11.5
C17:0 heptadecanoic acid	ND-2.0	ND-3.0	NA	ND-1.0	ND-1.0	ND-0.5	NA
C18:0 stearic acid	1.0-7.0	ND-7.5	NA	2.5-4.0	2.0-5.0	2.0-5.0	1.0-4.0
C18:1 (n-7) vaccenic acid	1.7-3.7	ND– 7.0	4.7-8.1	2.5-3.5	1.5-2.5	NA	2.0–7.0
C18:1 (n-9) oleic acid	3.6-17.0	10.0-25.0	6.0-14.5	5.5-8.5	8.0-16.0	30.0-47.0	12.0-21.0
C18:2 (n-6) linoleic acid	ND-3.5	ND-3.0	ND-3.0	2.0-3.5	1.5-2.5	8.0-15.0	0.5-3.0
C18:3 (n-3) linolenic acid	ND-7.0	ND-2.0	0.1-4.7	ND-2.0	ND-2.0	3.0-6.0	ND-2.0
C18:3 (n-6) γ-linolenic acid	ND-5.0	ND-4.0	NA	ND-2.5	ND-2.0	ND-0.5	NA
C18:4 (n-3) stearidonic acid	ND-5.0	ND-2.0	1.0-8.1	1.5-3.0	1.0-4.0	0.5-1.5	0.5-4.5
C20:0 arachidic acid	ND-1.8	ND-2.5	NA	0.1-0.5	ND-0.5	0.1-0.5	NA
C20:1 (n-9) eicosenoic acid	ND-4.0	ND-2.5	NA	ND-0.5	2.0-10.0	1.5-7.0	5.0-17.0
C20:1 (n-11) eicosenoic acid	ND-4.0	ND-3.0	NA	0.5-2.0	NA	NA	1.0-5.5
C20:4 (n-6) arachidonic acid	ND-2.5	ND-3.0	NA	ND-2.0	0.5-2.5	ND-1.2	ND-1.5
C20:4 (n-3) eicosatetraenoic acid	ND-2.0	ND-1.0	NA	NA	1.0-3.0	0.5-1.0	ND-2.0
C20:5 (n-3) eicosapentaenoic acid	5.0-26.0	2.5-9.0	14.3-28.0	12.5-19.0	6.5-11.5	2.0-6.0	7.0-16.0
C21:5 (n-3) heneicosapentaenoic acid	ND-4.0	ND-1.0	NA	0.5-1.0	ND-4.0	NA	ND-1.5
C22:1 (n-9) erucic acid	ND-2.3	ND-2.0	ND-1.5	0.1-0.5	ND-1.5	3.0-7.0	ND-1.5
C22:1 (n-11) cetoleic acid	ND-5.6	ND-1.0	NA	ND-0.1	1.0-1.5	NA	5.0-12.0

C22:5 (n-3) docosapentaenoic acid	ND-4.0	ND-3.0	ND-0.7	2.0-3.0	1.5-3.0	1.0-2.5	0.5-3.0
C22:6 (n-3) docosahexaenoic acid	4.0-26.5	21.0-42.5	7.1-15.7	5.0-11.5	6.0-14.0	3.0-10.0	6.0-18.0

ND = non-detect, defined as ≤0.05%
NA = not applicable or available

METHOD OF ANALYSIS FOR ENDORSEMENT BY CCMAS

(For inclusion in CODEX STAN 234-1999)

Commodity	Provisions	Method
Fish Oil	P-Anisidine value	European Pharmacopeia 2.5.36
	Phospholipids	USP-FCC10 1S (Krill oil): Content of total phospholipids by qualitative and quantitative NMR Analysis
	Triglycerides	USP 38 (Omega-3 Acid Triglycerides): Content of oligomers and partial glyceride; European Pharmacopoeia 01/2008/1352 (Omega3 acid triglycerides): Oligomers and partial glycerides; AOCS Cd 11d-96 (Mono- and diglycerides determination by HPLC-ELSD)

Appendix IV

PROPOSED DRAFT REVISION TO THE *STANDARD FOR OLIVE OILS AND OLIVE POMACE OILS* (CODEX STAN 33-1981): REVISION OF THE LIMIT FOR CAMPESTEROL

(N12-2015)

(at Step 5/8)

New texts added are shown in **bold/underlined** font.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

Sterol and triterpene dialcohol composition

Desmethylsterol composition (% total sterols)

Cholesterol	≤ 0.5
Brassicasterol	≤ 0.2 for olive-pomace oils
	≤ 0.1 for other grades
Campesterol	≤ 4.0*****
Stigmasterol	< campesterol
Delta-7-stigmastenol	≤ 0.5
Beta-sitosterol + delta-5-avenasterol + delta-5-23-stigmastadienol + clerosterol + sitostanol + delta-5-24-stigmastadienol	≥ 93.0

*** When an authentic oil naturally has a campesterol level >4.0% and ≤ 4.5%, it is considered virgin or extra virgin olive oil if the stigmasterol level is ≤ 1.4%, the delta-7-stigmastenol level is ≤ 0.3% and stigmastadienes is ≤0.05 mg/kg. The other parameters shall meet the limits set out in the standard.**

Appendix V

PROPOSED REVISION TO THE *STANDARD FOR NAMED VEGETABLE OILS* (CODEX STAN 210-1999): ADDITION OF PALM OIL WITH HIGH OLEIC ACID (OXG)

(N10-2015)

(at Step 5)

New texts added are shown in **bold/underlined** font.

2. DESCRIPTION

2.1 Product Definitions

[Palm oil – high oleic acid (high oleic acid palm oil) is derived from the fleshy mesocarp of hybrid palm fruit OxG (*Elaeis oleifera* x *Elaeis guineensis*).]

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 GLC ranges of fatty acid composition (expressed as percentages)

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

Fatty acid	Palm oil high oleic acid
C6:0	ND
C8:0	ND
C10:0	ND
C12:0	ND – 0.4
C14:0	ND – 0.8
C16:0	23.0 – 38.0
C16:1	ND – 0.8
C17:0	ND- 0.2
C17:1	ND
C18:0	1.5 - 4.5
C18:1	48.0 – 60.0
C18:2	9.0 – 17.0
C18:3	ND – 0.6
C20:0	ND – 0.4
C20:1	ND - 0.2
C20:2	ND - 0.5
C22:0	ND
C22:1	ND
C22:2	ND
C24:0	ND - 0.2
C24:1	ND

ND - non detectable, defined as ≤ 0.05%

[1]Data taken from species listed in Section 2.

APPENDIX OTHER QUALITY AND COMPOSITION FACTORS

Table 2: Chemical and physical characteristics of crude vegetable oils

	Palm oil high oleic acid
Relative density (x ºC/water at 20ºC)	0.8957-0.910 (50 °C/water a 20 ºC)
Apparent density (g/ml)	ND
Refractive index (ND 40ºC)	1.459-1.462
Saponification value (mg KOH/g oil)	189-199
Iodine value	58 – 75
Unsaponifiable matter (g/kg)	≤12
Stable carbon isotope ratio *	-

* For the method see the following publications:

- Woodbury SP, Evershed RP and Rossell JB (1998). Purity assessments of major vegetable oils based on gamma 13C values of individual fatty acids. JAOCS, 75 (3), 371-379.
- Woodbury SP, Evershed RP and Rossell JB (1998). Gamma 13C analysis of vegetable oil, fatty acid components, determined by gas chromatography-combustion-isotope ratio mass spectrometry, after saponification or regiospecific hydrolysis. Journal of Chromatography A, 805, 249-257.
- Woodbury SP, Evershed RP, Rossell JB, Griffith R and Farnell P (1995). Detection of vegetable oil adulteration using gas chromatography combustion / isotope ratio mass spectrometry. Analytical Chemistry 67 (15), 2685-2690.
- Ministry of Agriculture, Fisheries and Food (1996). Authenticity of single seed vegetable oils. Working Party on Food Authenticity, MAFF, UK.

Table 3: Levels of desmethylsterols in crude vegetable oils from authentic samples[1] as a percentage of total sterols

	Palm oil high oleic acid
Cholesterol	2.2-4.7
Brassicasterol	ND-0.4
Campesterol	16.6-21.9
Stigmasterol	11.5-15.5
Beta-sitosterol	57.2-60.9
Delta-5-avenasterol	1-1.9
Delta-7-stigmastenol	ND-0.2
Delta-7-avenasterol	ND-1.0
Others	ND-1.8
Total sterols (mg/kg)	519-1723

ND - Non-detectable, defined as ≤ 0.05%

[1] Data taken from species listed in Section 2.

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

	Palm oil high oleic acid
Alpha-tocopherol	128 - 152
Beta-tocopherol	ND
Gamma-tocopherol	4 - 138

Delta-tocopherol	**ND – 31**
Alpha-tocotrienol	**165 - 179**
Gamma-tocotrienol	**475 - 586**
Delta-tocotrienol	**35 - 61**
Total (mg/kg)	**678 - 956**

ND - Non-detectable

[1] Data taken from species listed in Section 2.

APPENDIX VI

PROPOSED DRAFT REVISION TO
THE *STANDARD FOR NAMED VEGETABLE OILS* (CODEX STAN 210-1999): PEANUT OIL

(N11-2015)

(at Step 5/8)

New texts added are shown in **bold/underlined** font.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 GLC ranges of fatty acid composition (expressed as percentages)

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

Fatty acids	Arachis Oil
C16:0	**5.0** - 14.0
C16:1	ND - 0.2
C18:0	1.0 - 4.5
C18:1	35.0 – **80.0**
C18:2	**4.0** - 43.0
C18:3	ND – **0.5**
C20:0	**0.7** - 2.0
C20:1	0.7 – **3.2**
C20:2	ND
C22:0	1.5 - 4.5
C22:1	ND – **0.6**
C22:2	ND
C24:0	0.5 - 2.5
C24:1	ND - 0.3

APPENDIX OTHER QUALITY AND COMPOSITION FACTORS

Table 2: Chemical and physical characteristics of crude vegetable oils

	Arachis Oil
Relative density	**0.909** - 0.920 x=20ºC
Iodine value	**77**-107

Appendix VII

PROJECT DOCUMENT

PROPOSED NEW WORK TO REVISE THE *STANDARD FOR NAMED VEGETABLE OILS* (CODEX STAN 210-1999): ESSENTIAL COMPOSITION OF SUNFLOWERSEED OIL

1. Purpose and scope of the standard

The proposed work is intended to revise:

(i) Section 3 of the Standard for Named Vegetable Oils (CODEX STAN 210-1999) to adapt the composition parameters of oleic acid (C18:1) and linoleic acid (C18:2) to reduce the gaps of these two fatty acids between sunflowerseed oil and sunflowerseed oil mid-oleic in order to represent the actual world variability of these oils. This can be achieved by increasing the maximum level of oleic acid for sunflowerseed oil and proportionally decreasing the level of linoleic acid

(ii) Section 2.1 the Standard for Named Vegetable Oils (CODEX STAN 210-1999) the definition of sunflowerseed oil and sunflowerseed mid-oleic oil

2. Relevance and timeliness:

Oils derived from sunflower seeds are some of the most consumed oil products worldwide for decades, both for its taste and for its beneficial nutritional qualities, and its functionality in the food industry.

The top sunflower producers includes Russia, Ukraine and other temperate countries (77% of world's production), but the cultivation of sunflower seeds in subtropical and tropical countries currently represents 15% of world sunflower production according to FAOSTAT data from 2011, 2012 and 2013.

The increase of sunflower cultivation to mild climate territories of Argentina, Tanzania, South Africa, India, Myanmar, Uganda, Bolivia, Brazil and Paraguay[1], as well as the expansion of its cultivation to Kenya, Angola, Mozambique, Zambia[2] may represent a standpoint to discuss the revision of the limits of some fatty acid composition profiles of sunflower oil, so the adjustment of such provisions should envision the worldwide variability of sunflower oils currently traded.

There is evidence in scientific literature of the influence of the temperature during seed maturation and fatty acid composition[3,4,5,6].

In order to ensure a regional and/or international trade that is fair, dynamic and transparent, it is essential that Codex consider amending the parameters related to the content of oleic and linoleic fatty acids, with a view to providing a framework for them within the standard.

3. Main aspects to be covered:

Section 2.1 revision of the definitions of sunflowerseed oil and sunflowerseed mid-oleic oil.

Section 3 (Table 1) revision of composition parameters of oleic acid (C18:1) and linoleic acid (C18:2) of sunflowerseed oil

4. Assessment against the Criteria for the establishment of work priorities:

This proposal for new work is consistent with the following criteria applicable to commodities:

a) Consumer protection from the point of view of health, food safety, ensuring fair practices in the food trade and taking into account the identified needs of developing countries.

The composition limits set in the Codex Standard have been mainly established to ensure fair practices in the food trade. However, non-representative limits may also act as technical barriers to trade in genuine sunflower oils, particularly sunflower oil from traditional seeds, if these exceed the limits for agroclimatic reasons or other causes related to the hybrids used. These limits are not safety-related.

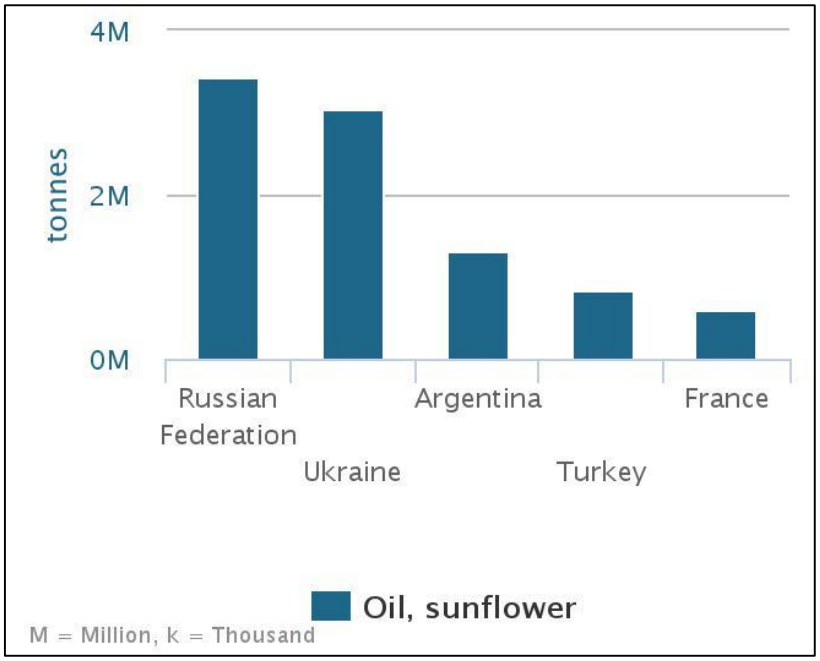
[1]FAOSTAT, 2012.
[2]Protabase Records - Helianthus annuus L.(at. http://database.prota.org/PROTAhtml/Helianthus%20annuus_En.htm)
[3]Grunvald AK et al. Influence of Temperature on the Fatty Acid Composition of the Oil From Sunflower Genotypes Grown in Tropical Regions. Journal of the American Oil Chemists' Society, 90(4):545-553, 2013.
[4] Lajara JR, Diaz U, Quidiello RD. Definite influence of location and climatic conditions on the fatty acid composition of sunflower seed oil. Journal of the American Oil Chemists' Society 67(10):618-623, 1990.
[5]Salera E, Baldini M. Performance of high and low oleic acid hybrids of sunflower under different environmental conditions. *Helia* 21(28):55-68, 1998.
[6]Sukkasem C, Laosuwan P, Wonprasaid S, Machikowa T. Effects of environmental conditions on oleic acid of sunflower seeds. International Journal of Chemical, Environmental & Biological Sciences 1(2):4087, 2013.

b) Volume of production and consumption in individual countries and volume and pattern of trade between countries.

Sunflower oil is the fourth most important oil in the world. Due to its price as compared to other edible oils, its consumption has increased significantly in the last few years.

According to the most current data published by the FAOSTAT (www.faostat.fao.org), an average of 13,713,410.5 tons of sunflower oil was produced in the 2012 and 2013 crops. The top five producers are Russian Federation, Ukraine, Argentina, Turkey and France, which represented in this period 67% of world sunflower oil production (graph 1).

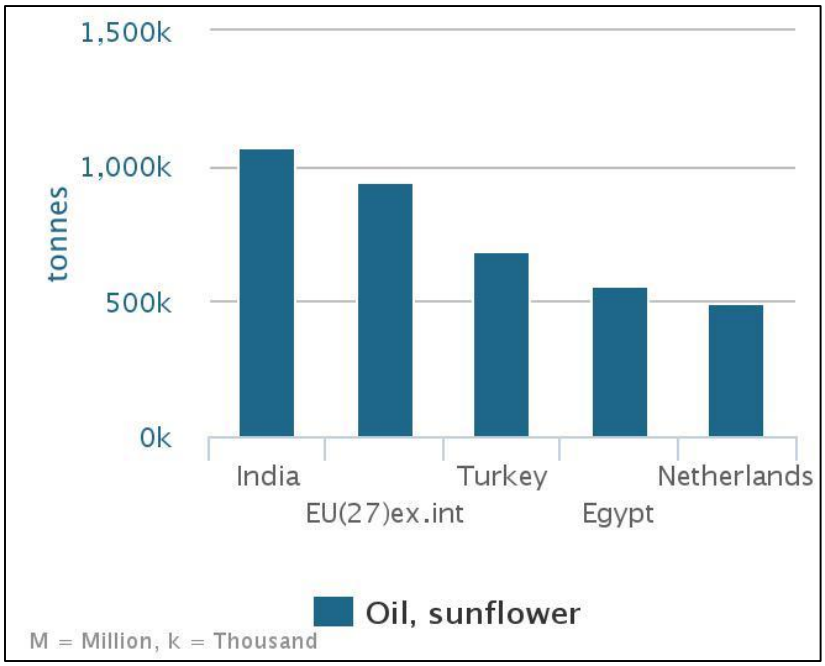
Graph 1.Sunflower oil production of top 5 producers (average 2012/2013).



In 2012/2013, the main exporters were Ukraine, the Russian Federation, Argentina, Netherlands and Hungary. Practically, all production of sunflowerseed oil in Ukraine was destined to exportation, while 41% of the oil produced in the Russian Federation and 46% in Argentina were exported. Ukraine, Russian Federation and Argentina were responsible for 25, 10 and 4%, respectively, by exports considering the global production in this period.

As regards to imports, India, European Union (except intra trade), Turkey, Egypt and Netherlands were the top five importers of sunflowerseed oil in 2012 and 2013 (graph 2). They imported together in this period a total of 3,753,634 tons of sunflower oil.

Graph 2. Sunflower oil imports of top 5 importers (average 2012 – 2013).



c) Diversification of national legislations and apparent resultant or potential impediments to International trade.

This Codex Standard may be used by Member States as a reference for the establishment of their own national legislation.

The WTO Agreement on Technical Barriers to Trade states that, whenever a Member adopts a technical regulation in accordance with relevant international standards, it shall be presumed not to create unnecessary obstacle to international trade (Article 2.5.) There is sound scientific evidence of the world variation in the oleic/linoleic acid levels and related indexes as a consequence of high temperatures in production areas.In 2006 in Argentina, the Instituto Argentino de Normalización y Certificación (IRAM), the Argentine standardization body which represents Argentina before ISO, revised the sunflower standard based on the results of the ASAGA study attached.[7]

Finally, Argentina modified its regulation to adapt it to the production reality, since the Codex Standard no longer allows reflecting the fatty acid profile of sunflower oils from Argentina traditional seeds.

The proposed amendment to the Standard for Named Vegetable Oils (CODEX STAN 210) will help to provide a harmonized international approach to the said quality and composition factors and will facilitate sunflower oil world trade for all the producers.

The resolution of the various inconsistencies found for sunflower oils defined in Codex Stan 210, will avoid difficulties in and barriers to trade.

d) International or regional market potential.

The consumption of edible vegetable oils has risen significantly in the last few years, and this trend is expected to continue and increase in the future.

Sunflower oil production is forecast to reach an all-time high of 16.6 million tons 1.4 million on the year. Exports are projected to surge, with Ukraine and Russia accounting for the bulk of the increase. Global consumption is forecast to grow 4 percent, driven mainly by strong demand in the EU, India, the Middle East and North Africa.

d) Amenability of the commodity to standardization.

This commodity is already regulated by CODEX STAN 210 in force since 1999. However, due to the appearance of new sunflower hybrids and production under new agro climatic conditions, differences in composition parameters mainly based on production areas with wider temperature variation and high temperatures are becoming increasingly evident, which requires modification to reduce the gaps in oleic and linoleic acid between sunflowerseed oil and sunflowerseed mid-oleic oil.

[7] - http://www.alimentosargentinos.gob.ar/HomeAlimentos/Aceites%20y%20Oleaginosas/documentos/011.pdf

The proposed changes should be introduced in the standard as there are scientific studies and analytical data supporting the rationale for amendment of Codex Stan 210.

e) Coverage of the main consumer protection and trade issues by existing or proposed general standards.

The Codex Standard in force does not address the natural variation in the fatty acid composition of sunflower oil according to agro climatic conditions of production areas worldwide.

Therefore, the amendment to the Codex Standard will contribute to ensure fair practices in the trade in these oils.

f) Number of commodities which would need separate standards indicating whether raw, semi processed or processed.

Not applicable.

g) Work already undertaken by other international organizations in this field and/or suggested by the relevant international intergovernmental bodies.

None known.

5. Relevance to the Codex strategic objectives:

The proposed new work would contribute to guaranteeing the proper identification of sunflower oil in international trade, taking into account the special needs and concerns of all countries, as it will meet the following strategic goals of the Strategic Plan2014-2019 of the Codex Alimentarius.

Goal 1: Establish international food standards that address current and emerging food issues.

The elaboration of Codex standards that are more representative of the world conditions will help to ensure their wider adoption by Member States and reduce to a minimum their possibility of causing negative effects on international trade as it is guaranteed that they do not represent any technical barriers to trade. This activity is very important considering the efforts being made by the international community to increase the production of food in order to guarantee food security, for which new regions that used to be unproductive have been incorporated into the productive system over the years.

Historically, sunflower seed is being produced in temperate countries. The identity and quality factors of Codex Standard were defined based on data from these countries. The increasing of sunflower seed production in new regions, with higher temperature, has resulted in oil with different fatty acid profiles, which does not fill the parameters established, making outdated the current in Codex Standard.

According to objective 1.2 of the strategic goal 1, it is expected that international standards could be developed and revised in order to reach the needs of its Members in response to factors that affect food safety, nutrition and fair practices in the food trade. Unfortunately, this issue has been discussing in Committee since 2009 without a decision about the matter.

Goal 2: Ensure the application of risk analysis principles in the development of Codex standards

The proposed work will promote the elaboration of Codex commodity standards based on the rigorous scientific analysis of collected data.

The proposed amendment to this Codex Standard (CODEX STAN 210) will promote fair trade of sunflower oil, as the production conditions in other geographic areas with parameters different from those regulated by Codex are considered thus reflecting the existing world variations. Also, this will prevent genuine oils from being classified under undefined areas.

This proposal of new work is aligned with the objective 2.3 of the strategic goal 2 that recommend increasing scientific input from developing countries. Argentina and Brazil present their analytical results from genuine oil of traditional sunflower seeds showing that the fatty acid profile, mainly oleic and linoleic acid, are out of current codex standard. There are scientific evidences that explain the influence of temperature in the fatty acid profile.

6. Information on the relation between the proposal and other existing Codex documents as well as other ongoing work:

There are no other ongoing work about sunflower oil. However, similar new works were recently approved by CCFO regarding revision on standards of olive oil standard and peanut oil due to climatic influence or new varieties not covered by current standards.

7. Identification of any requirement for and availability of expert scientific advice:

None identified.

8. Identification of any need for technical input to the standard from external bodies so that this can be planned for:

None identified.

9. Proposed time-line for completion of the new work:

Timetable	Meeting	Progress
2017	CCFO25	Agree on purpose and scope and request approval for new work from the CAC40.
2017	CAC40	Approval of new work.
2019	CCFO26	Discussion of the draft to amend the sunflower oil standard at Step 4 and proposal to forward the draft to CAC for adoption at Step 5/8.
2019	CAC42	Final adoption of the draft amendment for sunflower oil standard at Step 5/8.

Appendix VIII

PROJECT DOCUMENT

PROPOSED NEW WORK TO REVISE THE *STANDARD FOR NAMED VEGETABLE OILS* (CODEX STAN 210-1999):
REPLACEMENT OF ACID VALUE WITH FREE FATTY ACIDS FOR VIRGIN PALM OIL AND INCLUSION OF FREE FATTY ACIDS FOR CRUDE PALM KERNEL OIL

1. Purpose and scope of the standard

The purpose and scope of the proposed revisions to the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999) is to replace acid value with free fatty acids (FFA) expressed as palmitic acid for virgin palm oil and to include FFA for crude palm kernel oil expressed as lauric acid in the Appendix to the Standard.

2. Relevance and timeliness

Palm oil is the largest produced, consumed and traded vegetable oil in the world while palm kernel oil is amongst the largest edible oils traded worldwide. The oils have been globally traded for the last five decades and are widely consumed in countries such as India, Europe, China, Indonesia, Malaysia and other parts of the world.

The global trade practices for characterising acidity as one of the main quality specifications of virgin palm oil and crude palm kernel oil has always been expressed in terms of the content of FFA. However in the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999), the acidity of virgin palm oil is currently expressed as acid value. As for the acidity of crude palm kernel oil, the current specification is 4.0 mg KOH/g oil. The inconsistency in the different expression terms of the acidity of virgin palm oil and crude palm kernel oil has resulted in difficulties in international trade.

Codex Standards have been accepted internationally as the main reference in the development of national legislations. Therefore, the proposed revisions will promote standardization and harmonization with national legislations, thus avoiding any impediments to the international trade of palm oil and palm kernel oil. Hence, it is imperative that Codex consider amending the parameter related to acidity and to replace the acid value with FFA expressed as palmitic acid for virgin palm oil and to include acidity of crude palm kernel oil expressed as FFA content as lauric acid in the Standard to avoid any disruption to trade.

3. Main aspects that should be covered

The revisions will include a proposed value for FFA content of virgin palm oils, expressed as palmitic acid and the inclusion of acidity for crude palm kernel oils, expressed as FFA content expressed as lauric acid to be incorporated under the section ***Quality Characteristics*** in the Appendix of the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999) and consequential changes to Section 5 on Method of Analysis and Sampling.

4. An assessment against the criteria for the establishment of work priorities

Criteria applicable to commodities:

General Criterion

Consumer protection from the point of view of health, food safety, ensuring fair practices in the food trade and taking into account the identified needs of developing countries

There are already provisions in the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999) to ensure consumer protection in terms of food safety and authenticity of these products. The new proposed revisions will serve to enhance international trade of palm oil and palm kernel oil to ensure the quality of the oils and consistency in global practices.

a) Volume of production and consumption in individual countries, and volume and pattern of trade between countries

According to data published by the Oil World Annual, the total world production of 17 major oils and fats in 2015 amounted to 206.38 million tonnes[1]. Palm oil is the largest produced vegetable oil in the world. The global production of palm oil reached 62.56 million tonnes, representing 30% of the total world production of major oils and fats. This is followed by soybean oil (24%), rapeseed oil (13%) and sunflower oil (7%). Palm kernel oil is the fifth largest produced vegetable oil at 6.85 million tonnes, contributing to about 3% of total world production of oils and fats (Figure 1).

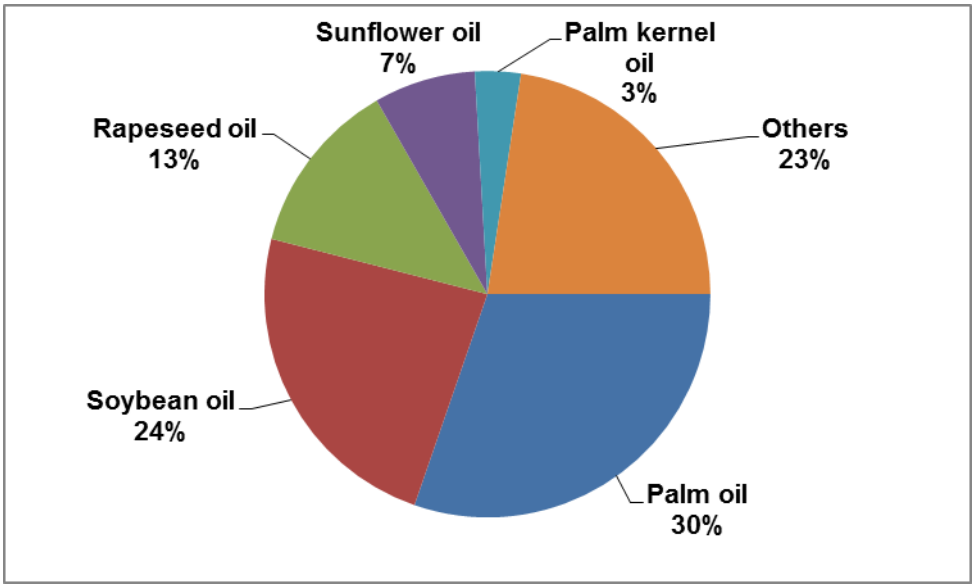


Figure 1. World production of major oils and fats in 2015

In 2015, more than 85% of total world production of palm oil and palm kernel oil were contributed by Indonesia (33.40 million tonnes) and Malaysia (19.96 million tonnes), the major producers of these oils. Other producers of palm oil and palm kernel oil include Thailand, Colombia, Nigeria, Ecuador and many other countries[2].

In the same period, palm oil and palm kernel oil has been largely consumed worldwide by countries such as India, Indonesia, European Union (EU), China, Malaysia, Pakistan, Nigeria, Thailand, United States of America (U.S.A), Colombia as well as many other countries. Table 1 tabulates the global consumption of palm oil while the worldwide consumption of palm kernel oil is shown in Table 2.

Table 1. Worldwide consumption of palm oil in 2015[3]

Country	**Palm oil consumption (million tonnes)**
India	9.29
Indonesia	7.34
EU	7.24
China	5.84
Malaysia	2.92
Pakistan	2.52
Others	25.94
Total	**61.09**

[1] Oil World Annual 2016
[2] Oil World Annual 2016
[3] Oil World Annual 2016

Table 2. Worldwide consumption of palm kernel oil in 2015[4]

Country	Palm kernel oil consumption (million tonnes)
Indonesia	1.68
Malaysia	1.50
EU	0.67
China	0.62
U.S.A	0.27
Brazil	0.24
India	0.22
Others	1.52
Total	**6.72**

The major exporters of palm oil and palm kernel oil are Indonesia and Malaysia. In 2015, Indonesia and Malaysia exported a combined total of 44 million tonnes and 2.96 million tonnes of palm oil and palm kernel oil, respectively. Both oils are imported by more than 150 countries of which the major importers are India, EU, China, Pakistan, Bangladesh, U.S.A and Brazil. Figure 2 illustrates the major palm oil importers in 2015 while Figure 3 shows the major importers of palm kernel oil in the same year.

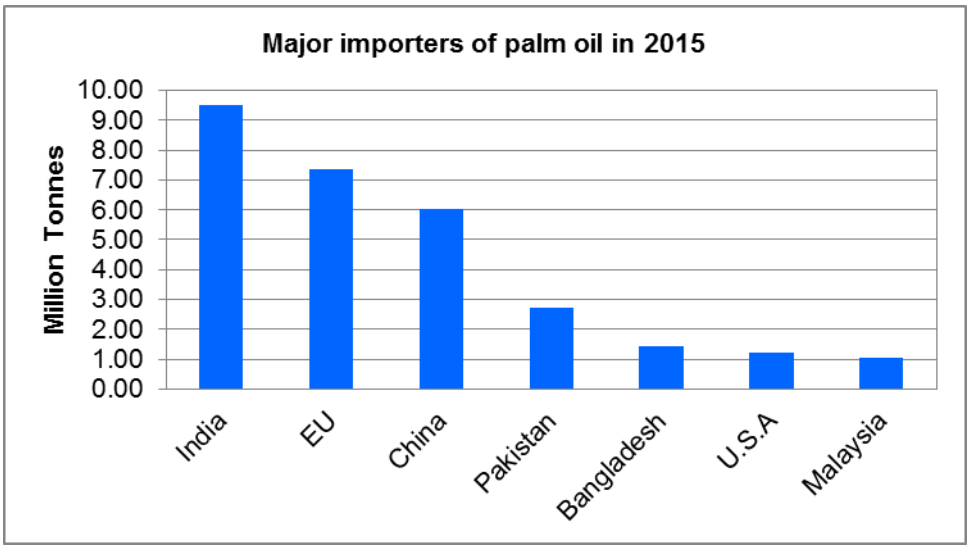
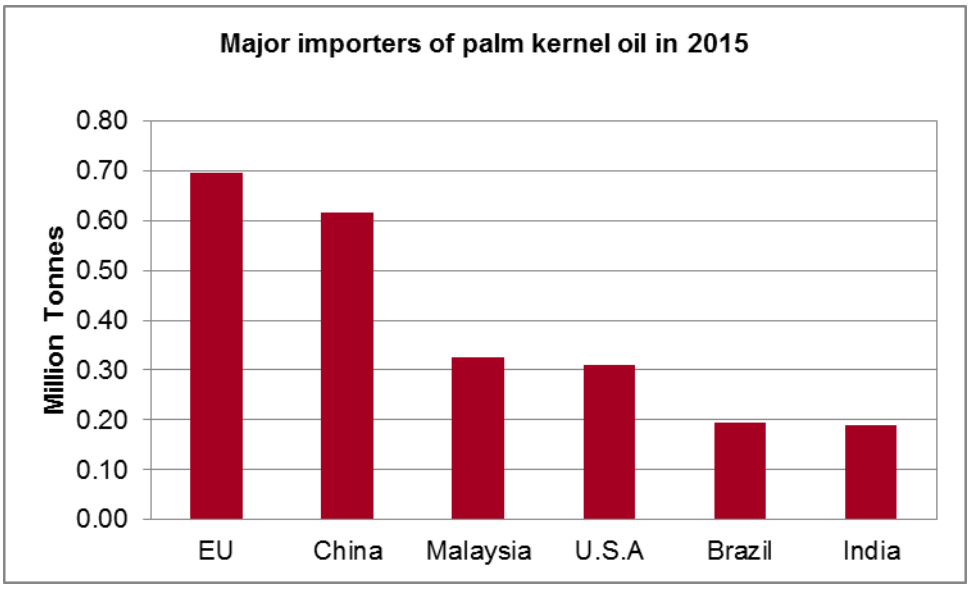


Figure 2. Major importers of palm oil in 2015



[4] Oil World Annual 2016

Figure 3. Major importers of palm kernel oil in 2015

b) Diversification of national legislations and apparent resultant or potential impediments to international trade

The proposed revision in the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999) would facilitate in the harmonization of national legislations with international standards and thus reduce impediments to international trade of palm oil and palm kernel oil.

c) International or regional market potential

There is existing substantial global trade volume of palm oil and palm kernel oil and this trend is expected to increase further in the future. In 2015, the world production of oils and fats was 206.38 million tonnes and palm oil and palm kernel oil constituted 30% and 3% of world production of main oils and fats, respectively. The global exports of palm oil in 2015 were 48.23 million tonnes, which constitutes about 57% of total world exports of main oils and fats. Approximately 3.31 million tonnes of palm kernel oil was exported worldwide in the same year.

d) Amenability of the commodity to standardization

The specification for acidity expressed in terms of FFA expressed as palmitic acid for palm oil and FFA expressed as lauric acid for palm kernel oil has already been well-established in palm oil and palm kernel oil trade worldwide. Therefore, the proposed revisions are suitable for standardization in the existing *Standard for Named Vegetable Oils* (CODEX STAN 210-1999) to facilitate the harmonization of national legislations with international standards.

e) Coverage of the main consumer protection and trade issues by existing or proposed general standards

There are already provisions in the existing *Standard for Named Vegetable Oils* (CODEX STAN 210-1999) which cover the main consumer protection and trade issues. The proposed revisions will provide further improvement to the standard and thus facilitate its implementation.

f) Number of commodities which would need separate standards indicating whether raw, semi processed or processed

This item is not relevant to this proposal.

g) Work already undertaken by other international organizations in this field

There is no other known international organisation which have already undertaken this work.

5. Relevance to Codex strategic objectives

This revision is consistent with the Strategic Plan of the Codex Alimentarius Commission 2014-2019 to establish international food standards in response to needs identified by Members and in response to factors that affect food safety, nutrition and fair practices in the food trade.

6. Information on the relation between the proposal and other existing Codex documents as well as other ongoing work

This proposal is a revision to the existing *Codex Standard for Named Vegetable Oils* (CODEX STAN 210-1999).

7. Identification of any requirement for and availability of expert scientific advice

No expert scientific advice from external bodies is necessary.

8. Identification of any need for technical input to the standard from external bodies so that this can be planned for:

No technical input to the standard from external bodies is necessary.

9. The proposed timeline for completion of the new work, including the start date, the proposed date for adoption at step 5, and the proposed date for adoption by the Commission

Approval as new work by the 40th Session of the Codex Alimentarius Commission in 2017;

Proposed draft revisions considered at Step 4 at the 26th Session of CCFO, 2019.

Final adoption at Step 5/8 in the 42nd Session of the Codex Alimentarius Commission in 2019.

Appendix IX

AMENDMENT TO THE *STANDARD FOR NAMED VEGETABLE OILS* (CODEX STAN 210-1999)

(for adoption)

New texts added are shown in **bold/underlined** font.

APPENDIX OTHER QUALITY AND COMPOSITION FACTORS

2. COMPOSITION CHARACTERISTICS

The **gama oryzanol** in crude Rice bran oil should be in the range of 0.9-2.1%

For the fatty acid range of crude rice bran oil not intended for direct human consumption the ranges as given for rice bran oil in Table 1 apply

Appendix X

PROJECT DOCUMENT

NEW WORK TO REVISE THE *STANDARD FOR OLIVE OILS AND OLIVE POMACE OILS* (CODEX STAN 33-1981)

1. Purpose and scope of the proposed work

Review Sections 3, 8 and the appendix of the current Codex Standard for *Olive Oils and Olive Pomace Oils* (CODEX STAN 33-1981,) to bring them in line with latest technological and scientific progress and evolving conditions in the sector and to take into account the needs of all Codex members.

2. Relevance and timeliness

The proposed work falls within the terms of reference of the Codex Committee on Fats and Oils (CCFO): "To elaborate worldwide standards for fats and oils of animal, vegetable and marine origin including margarine and olive oil."

There have been significant technological and scientific developments since the last major revision of the Standard (CODEX STAN 33-1981) in 2003, therefore it is timely to review the standard to take into account these developments.

The new work will add to the knowledge of the composition and quality characteristics of olive products and update the Codex standard to enable product quality control, facilitate international trade, enhance consumer protection and prevent fraudulent and misleading practices and adulteration. To this end quality and authenticity verification of olive oil products should be based on the latest scientific developments.

3. Main aspects to be covered

The main aspect to be covered is the revision of Section 3 (Essential Composition and Quality Factors) and of the Appendix of the Codex standard in order to:

- keep the pace with the state of the art achievements in olive oil production and refining technology;
- have a more effective set of tools to combat frauds;
- accommodate the greater variability of olive oils composition due to introduction of olive cultivation into new areas.

Another aspect to be covered is the revision of section 8 (Methods of analysis and sampling) in order to update the appropriate references and include new methods where appropriate.

4. Assessment against the Criteria for the Establishment of Work Priorities

This new work proposal is consistent with the following criteria applicable to commodities:

(a) Volume of production and consumption in individual countries and volume and pattern of trade between countries

In the last twenty years the world production of olive oil has increased by 22% and consumption spread to more and more consuming countries.

According to the data published by IOC[1], global olive oil production in the **2015/16** crop year (October to September) amounted to 3 160 kilotonnes (kt). Producers were led by the top five producers of the European Union (2 322 kt, approximately 73% of global production), Syria (110 kt, 3.5%), Tunisia (140 kt, 4.4%), Turkey (143 kt, 4.5%) and Morocco (130 kt, 4.1%). In the same crop year, the top five (provisional data) exporters were the EU (610 kt, approximately 73.5% of global exports), Tunisia (100 kt, 12%), Morocco (16.5 kt, 2%), Turkey (20 kt, 2.4%) and Argentina (30.5 kt, 3.7%).

[1] www.internationaloliveoil.org

International trade in olive oil has sharply developed. Over the last twenty years it increased by 88% in volume and by 420% in value[2] to reach a total volume of imports of 822.5 kilotonnes in 2015/16 marketing year (October to September), for an overall value of EUR 3 209 millions in 2015[2]. The leading five importers were the USA (314 kt, approximately 38% of global imports), the EU (119 kt, 14.5%), Brazil (50 kt, 6.1%), Japan (53.5 kt, 6.5%) and Canada (41 kt, 5%). During the same period, the main five consumers were the EU (1 618.5 kt, approximately 55%), the USA (310 kt, 10.5%), Turkey (124 kt, 4.2%), Syria (105 kt, 3.6%) and Morocco (120 kt, 4%).

(b) Diversification of national legislation and apparent resultant or potential impediments to international trade.

The Codex standard may be used as a benchmark for standards by member countries in setting their domestic regulations.

The alignment of national standard to Codex standard is essential to facilitate international trade, promote and ensure fair trade practices and consumer protection.

Currently producing countries and consuming countries often apply national and international standards which differ on substantial aspects related to quality and authenticity parameters and analytical methods. Most of the producing countries use the standard of the International Olive Council.

(c) International or regional market potential

While the EU, Tunisia, Turkey and Morocco are likely to remain the world's leading olive oil exporters in the near future, production is expected to expand considerably in a number of other countries.

(d) Amenability of the commodity to standardization

The experience with the current Codex standard, in place since 1981, has shown the amenability of olive oil to standardization.

(e) Coverage of the main consumer protection and trade issues by existing or proposed general standards

The aim of the new work is to revise the existing Codex standard on olive oil.

(f) Number of commodities which would need separate standards indicating whether raw, semi-processed or processed

The scope of the current standard (CODEX STAN 33-1981) will remain unchanged.

(g) Work already undertaken by other international organizations in this field and/or suggested by the relevant international intergovernmental body(ies)

International Olive Council (IOC) has developed the following standard: COI/T.15/NC No 3/Rev. 11 TRADE STANDARD APPLYING TO OLIVE OILS AND OLIVE-POMACE OILS, and COI/T.20/Doc. No 15/Rev. 8 SENSORY ANALYSIS OF OLIVE OIL METHOD FOR THE ORGANOLEPTIC ASSESSMENT OF VIRGIN OLIVE OIL

5. Relevance to CODEX strategic Objectives

The proposed new work would contribute to ensuring fair practices in international trade in olive oil, taking into account the needs and special concerns of all countries, by satisfying the following strategic objectives and priorities elaborated in Codex *Alimentarius Commission: Strategic Plan 2014-2019.*

<u>Goal 1: Establish international food standards that address current and emerging food issues:</u>

Objective 1.2.2 Develop and revise international and regional standards as needed, in response to needs identified by Members and in response to factors that affect food safety, nutrition and fair practices in the food trade.

Developing more globally representative Codex standards will help to ensure they are adopted as widely as possible by member countries and to minimize the potential negative effects of technical regulations on international trade by ensuring that they do not act as unnecessary technical barriers to trade. Th

Objective 1.3 Strengthen coordination and cooperation with other international standards-setting organizations seeking to avoid duplication of efforts and optimize opportunities.

1.3.2 Promote cooperation with other international governmental and non-governmental standard setting organizations to support development of relevant Codex standards and to enhance awareness, understanding and use of Codex standards.

[2] GTA (Global Trade Atlas) import value; annual series 1996-2015

6. Information **on the relation between the proposal and other existing CODEX documents**

n.a.

7. Identification of any need of any requirement for and availability of expert scientific advice

No specific need for any scientific advice has been identified.

8. Identification of any need for technical input to the standard from external bodies

A contribution from relevant organisations including the IOC and AOCS in the revision of the Codex standard would be expected.

9. The Proposed Timeline for Completion of the New Work

Approval as new work:	by 40th session, CAC, 2017
Consideration of proposed Draft amendments at step 4:	by 26th session, CCFO, 2019
Submission to CAC for Adoption at Step 5:	2019
Step 7:	27th CCFO 2021
Submission to CAC for Adoption at Step 8:	CAC 2021