

CODEX ALIMENTARIUS COMMISSION



Food and Agriculture
Organization of the
United Nations



World Health
Organization

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REP26/FO

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION

Forty-ninth Session

CICG, Geneva, Switzerland

6-10 July 2026

REPORT OF THE 29TH SESSION OF THE CODEX COMMITTEE ON FATS AND OILS

Kuala Lumpur, Malaysia

9-13 February 2026

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SUMMARY AND STATUS OF WORK

Responsible Party	Purpose	Text/Topic	Code	Step	Para(s)
CAC CCXEC Members	Adoption	Draft standard for microbial omega-3 oils	N06-2024	5	82 (i), App III Part 1
		Amendments/Revisions to the List of Acceptable Previous Cargoes in the <i>Code of practice for the storage and transport of edible fats and oils in bulk</i> (CXC 36-1987)	-	-	108 (i), App IV Part 1
	Approval	New work - revision of the <i>Standard for named vegetable oils</i> (CXS 210-1999) to:	-	-	144 (i), App V
		a) include Shea butter	-	-	159 (i), App VI
		b) adjust stearic acid content for high oleic acid sunflower seed oil	-	-	169 (i), App VII
CCFA	Action / Endorsement / Information	Technological use of lauric arginate ethyl ester (INS 243) as a preservative in products conforming to the <i>Standard for fat spreads and blended spreads</i> (CXS 256-1999)			8 & 9 (iv)
		- Endorsement of food additive provisions in the draft standard for microbial omega-3 oils - Advise on the appropriate categorisation of microbial omega-3 oils in the <i>General standard for food additives</i> (CXS 192-1995)			82 (iv), App. III Parts 2 & 3
CCFL	Endorsement	Labelling provisions in the draft standard for microbial omega-3 oils			82 (ii)
CCCF	Action	Consider extending the maximum levels (MLs) of arsenic and lead for edible fats and oils in the <i>General standard for contaminants and toxins in food and feed</i> (CXS 193-1995) and the notes/remark associated with the ML of arsenic to microbial omega-3 oils			82 (iii)
CCMAS	Action/ Endorsement	Include the method for the determination of gamma oryzanol in the <i>Recommended methods of analysis and sampling</i> (CXS 234-1999) from CXS 210-1999, including re-endorsement and re-typing of the method as Type III			18 (i), App II
		Endorsement of methods of analysis in the draft standard for microbial omega 3-oils and retype the methods for moisture and volatile matter determination			75 and 82(ii)
EWG (Saudi Arabia, European Union) Members CCFO30	Drafting/ Comments	Prepare draft revisions to Codex standards on fats and oils (<i>Standards for edible fats and oils not covered by individual standards</i> (CXS 19-1981); <i>fat spreads and blended spreads</i> (CXS 256-1999); <i>named animal fats</i> (CXS 211-1999)) to reduce <i>trans</i> -fatty acid (TFA) intake		2/3	51 (i-ii)
EWG (USA, China) Members CCFO30	Drafting/ Comments	- Consider outstanding issues in square brackets in the draft standard for microbial omega-3 oils - Elaborate proposed draft revisions to CXS 19-1981 that would need to be applied consequential to the final adoption of the draft standard for microbial omega-3 oils		6/7	82 (v)

Responsible Party	Purpose	Text/Topic	Code	Step	Para(s)
EWG (Malaysia) Codex Secretariat Members CCFO30	Drafting/ Comments	Consider proposals for new substances to be added to the LOAPC and revise and comment on the draft standard template for submission of proposals for amendments to the LOAPC			108 (ii-iii)
EWG (Syrian Arab Republic, Australia, Saudi Arabia, Tunisia, IOC) Codex Secretariat Members CCFO30	Drafting/ Comments	Collection of global scientific data and information for olive oil			131 (i-v)
EWG (Nigeria, Ghana, India, the Netherlands) Members CCFO30	Drafting/ Comments	Elaborate proposed draft revisions to CXS 210-1999 to include Shea butter		2/3	144 (iii)
Codex Secretariat Iran and Russian Federation Members CCFO30	Drafting/ Comments	Elaborate proposed revisions to CXS 210-1999 to adjust the lower limit of stearic acid content for high oleic acid sunflower seed oil		2/3	159 (ii)
EWG (Mongolia, China) Members CCFO30	Drafting/ Comments	Elaborate proposed draft revisions to CXS 210-1999 to include sea buckthorn pulp oil and sea buckthorn seed oil		2/3	169 (ii)
FAO CCFO30	Action	Undertake an analysis of data and information on studies on the evolution of pyropheophytin "a" (PPP) and 1,2-diglycerides (1,2-DAG) in extra virgin olive oil (EVOO)			125 and 126 (i, iii)
Members	Information	Decide on the removal of Ordinary virgin olive oil from the <i>Standard for olive oils and olive pomace oils</i> (CXS 33-1981) by CCFO30 (Refer to REP22/FO, paragraph 92-95)			133-135
CCAFRICA	Information	Potential review on the need for the <i>Regional standard for unrefined shea butter</i> (Africa) (CXS 325R-2017) once shea butter was included in in CXS 210-1999			144 (ii)

LIST OF ABBREVIATIONS

1,2-DAG	1,2-diglycerides
ADI(s)	Acceptable daily intake(s)
AOCS	Americal Oil Chemists Society
As-in	Inorganic arsenic
CAC	Codex Alimentarius Commission
CAS	Chemical Abstracts Service
CCAFRICA	FAO/WHO Coordinating Committee for Africa
CCCF	Codex Committee on Contaminants in Food
CCEXEC	Executive Committee of the Codex Alimentarius Commission
CCFA	Codex Committee on Food Additives
CCFL	Codex Committee on Food Labelling
CCFO	Codex Committee on Fats and Oils
CCMAS	Codex Committee on Methods of Analysis and Sampling
CCNE	FAO/WHO Coordinating Committee for the Near East
CL	Circular letter
CRD	Conference room document
CXC	Codex code of practice
CXG	Codex guideline
CXS	Codex Standard
DHA	Docosahexaenoic acid
EAC	East African Community
EPA	Eicosapentaenoic acid
EU	European Union
EVOO	Extra virgin olive oil
EWG(s)	Electronic working group(s)
FAO	Food and Agriculture Organization of the United Nations
FC(s)	Food category(ies)
FEDIOL	The EU Vegetable Oil and Protein meal Federation
FIA	Food Industry Asia
GMP	Good manufacturing practices
GOED	Global Organization for EPA and DHA Omega-3s
GSFA	General standard for food additives
HS	Harmonised system
ICUMSA	International Commission for Uniform Methods of Sugar Analysis
IDF/FIL	International Dairy Federation
INS	International numbering system
IOC	International Olive Council
ISO	International Organisation for Standardization
iTFA	Industrially produced <i>trans</i> -fatty acids

IWG(s)	In-session working group(s)
JECFA	Joint FAO/WHO Expert Committee on Food Additives
JEMRA	Joint FAO/WHO Expert Meetings on Microbiological Risk Assessment
LOAPC	List of Acceptable Previous Cargoes
ML(s)	Maximum level(s)
MOAH	Mineral oil aromatic hydrocarbons
MOH	Mineral oil hydrocarbons
NCD	Non-communicable diseases
PHO	Partially hydrogenated fats and oils
ppm	Parts per million
PPP	Pyropheophytin "a"
PWG(s)	Physical working group(s)
TFA	<i>trans</i> -fatty acid
TOR(s)	Term(s) of reference
UK	United Kingdom
UNICEF	United Nations Children's Fund
USA	United States of America
UV	Ultraviolet
VCO	Virgin coconut oil
VWG(s)	Virtual working group(s)
WHO	World Health Organization

INTRODUCTION

1. The Codex Committee on Fats and Oils (CCFO) held its twenty-ninth session in Kuala Lumpur, Malaysia, from 9 to 13 February 2026, at the kind invitation of the Government of Malaysia. Ms Zailina Abdul Majid, Deputy Director-General of Health (Food Safety and Quality), Ministry of Health Malaysia, chaired the session, which was attended by 48 Member Countries, 1 Member Organization (European Union) and seven Observer organizations and the Food and Agricultural Organization of the United Nations (FAO) and World Health Organization (WHO). The full list of participants is contained in Appendix I.

OPENING OF THE SESSION

2. Datuk Seri Dr Dzulkefly Ahmad, the Honourable Minister of Health, Malaysia, opened the meeting, welcoming the participants and highlighted the role of standards for fats and oils in facilitating trade, ensuring food safety and authenticity, and improving human nutrition, given that fats and oils formed a significant part of the global diet. The Minister congratulated FAO for celebrating its 80th anniversary in 2025 and commended WHO for their leadership in working towards the elimination of industrially produced *trans*-fatty acids (iTFA) from the global food supply. The Minister also commended CCFO for its work on microbial omega-3 oils, noting that this supported innovations in modern food systems and could potentially contribute to global sustainability.
3. The following representatives also addressed the Committee:
 - Ms Angeliki Vlachou, Food Safety Officer, FAO;
 - Dr Simone Moraes Raszl, Unit Head, Standards and Scientific Advice, Nutrition and Food Safety Department, WHO; and
 - Dr Allan Azegele, Chairperson, Codex Alimentarius Commission (CAC) (via video message).

Division of Competence¹

4. CCFO29 noted the division of competence between the European Union and its Member States, in accordance with paragraph 5, Rule II, of the Rules of Procedure of CAC.

ADOPTION OF THE AGENDA (Agenda item 1)²

5. CCFO29 adopted the provisional agenda as its agenda for the meeting and agreed to consider under Agenda Item 10 (Other Business), possible future work on the revision to the *Standard for named vegetable oils* (CXS 210-1999) – to include new definitions (Egypt), subject to the availability of time.
6. CCFO29 agreed to establish two in-session Working Groups (IWGs), working in English only, as follows:
 - An IWG on New Work Proposals (Agenda Item 9), chaired by the United Kingdom with the following terms of reference (TORs):
 - to screen the proposals for new work (Agenda Items 9.1, 9.2, 9.3 and 9.4) for completeness against the criteria in the *Codex Procedural Manual* regarding proposals for new work and the decision of CCFO16, taking into account written comments received from Members in relation to the proposals;
 - to assess whether the information provided fulfils the requirements for the proposed new work and make recommendations to the plenary; and
 - to prepare a report containing recommendations to be presented to the plenary.
 - An IWG on the draft revisions to Codex standards on fats and oils to reduce *trans*-fatty acid (TFA) intake (Agenda item 5), chaired by Canada, with the following TORs:
 - to consider the proposed draft revisions in CRD20, taking into account the comments contained in CX/FO 26/29/5-Add.1 and in other relevant CRDs; and
 - to prepare a report containing recommendations to be presented to the plenary.

¹ CRD01 (Division of competence between the European Union and its Member States)

² CX/FO 26/29/1; CRD04 (Burundi, Uganda, United Republic of Tanzania); CRD18 (Egypt); CRD27 (East African Community (EAC))

MATTERS ARISING FROM THE CODEX ALIMENTARIUS COMMISSION AND ITS SUBSIDIARY BODIES (Agenda item 2)³

Matters for information

7. CCFO29 noted the information from CAC, the Executive Committee of the Codex Alimentarius Commission (CCEXEC), the Codex Committees on Methods of Analysis and Sampling (CCMAS), Food Additives (CCFA), Food Labelling (CCFL) and the FAO/WHO Coordinating Committee for the Near East (CCNE).

Matter for action

8. CCFO29 discussed the request from CCFA54 regarding the technological justification for the use of lauric arginate ethyl ester (INS 243) as a preservative in products conforming to the *Standard for fat spreads and blended spreads* (CXS 256-1999). The committee noted the following two broad responses:
 - a) The food additive lauric arginate ethyl ester (INS 243) is used in certain countries as a preservative (antimicrobial agent) in foods conforming to CXS 256-1999. It inhibits the growth of spoilage microorganisms, including bacteria, yeasts, and moulds in products such as margarine and margarine-like table spreads, mayonnaise and spoonable and pourable salad dressings, at use levels up to 200 ppm. Its efficacy is attributed to its stability in the aqueous phase, which commonly supports microbial proliferation.
 - b) Other Members noted that sorbates (INS 200, 202, 203) and benzoates (INS 210, 211, 212 and 213) were the only preservatives with numerical acceptable daily intake (ADI) values for use in some fat spreads and blended spreads conforming to CXS 256-1999 and were considered technologically justified for use as preservatives when the standard was established. Some countries were not aware of the technological need for the use of lauric arginate ethyl ester (INS 243) in products conforming to CXS 256-1999.

Conclusion

9. CCFO29:
 - i. noted the matters for information from CAC, CCEXEC, CCMAS, CCFA, CCFL and CCNE.
 - ii. reaffirmed the practice in CCFO for developing group standards, and implementation of the good work management practices including screening the new work proposals.
 - iii. encouraged all members to take on leadership positions within the work of CCFO including expressing interest in being chairs and/or co-chairs of electronic working groups (EWGs); the importance of good practices in managing EWGs and encouraged the use of the EWG handbook to guide such practices; and
 - iv. noted that there was no agreement on the technological use of lauric arginate ethyl ester (INS 243) as a preservative in products conforming to CXS 256-1999 and agreed to forward the information provided in paragraph 8 to CCFA.

ACTIVITIES OF INTERNATIONAL ORGANIZATIONS RELEVANT TO THE WORK OF CCFO (Agenda item 3)⁴

FAO

10. The FAO representative informed CCFO29 of matters arising jointly from FAO and WHO, including updates on the work of the Joint FAO/WHO Expert Committee on Food Additives (JECFA) as well as relevant developments originating from FAO. The updates covered recent and upcoming scientific evaluations by JECFA, nutrition-related initiatives, broader FAO organizational activities, and the publication of pertinent technical reports. The information provided is contained in CX/FO 26/29/3.

WHO

11. The WHO representative highlighted that in 2018, WHO called for the global elimination of iTFA by 2025 and to date, 65 countries had adopted best-practice policies, with six additional countries adopting such policies since 2024, and that approximately half of the global population remained unprotected from exposure to iTFA. To accelerate decisive action by governments, WHO continued to support Member States through technical assistance, policy guidance, capacity-building workshops and practical tools. The TFA Validation programme launched in 2023 recognises countries that have implemented best practice iTFA policies supported by

³ CX/FO 26/29/2 & Add.1; CRD05 (Burundi, Egypt, European Union, Kenya, Uganda and United Republic of Tanzania) CRD24 (Nigeria); CRD27 (East African Community (EAC)); CRD30 (Panama)

⁴ CX/FO 26/29/3 & Add.1; CRD06 (Burundi, Egypt, European Union, Kenya, Uganda and United Republic of Tanzania); CRD24 (Nigeria); CRD27 (East African Community (EAC)); CRD30 (Panama)

effective monitoring and enforcement. Under this programme, validation certificates were awarded to nine countries in 2024 and 2025.

12. The representative called the attention of CCFO29 to the recent WHO call for global data on the fatty acid composition of bovine milk to support validation of iTFA estimation approaches; the Joint FAO/WHO Expert Meetings on Microbiological Risk Assessment (JEMRA) call for experts and data related to the microbiological risk assessment of powdered infant formula; and WHO guidelines on healthy diets and policy actions that have been recently published as well as those which were under development.

International Olive Council (IOC) activities

13. The International Olive Council (IOC) representative thanked the CCFO chairperson and the Codex Secretariat for their ongoing support and collaboration and recalled its long-standing cooperation with Codex to harmonize standards, protect consumers, enhance product quality, facilitate trade, and prevent fraud. In addition to the *Standard for olive oil and olive pomace oil* (CXS 33-1981), since 2013, the *Standard for table olives* (CXS 66-1981) has been fully aligned with the IOC standard. The representative highlighted that IOC develops its standards based on robust scientific evidence and official data from all producing countries, supported by the engagement of over 178 experts, 44 working groups, 141 sensory panels, and 125 testing laboratories. Over the years, at Codex's request, the IOC had also conducted significant studies, including those on fatty acids, campesterol, and delta-7-stigmastenol, and continued to advance research in areas such as pyropheophytin "a" (PPP), 1,2-diglycerides (1,2-DAG), sterols, and olive pomace oils. The representative reaffirmed IOC's commitment to support Codex by offering its scientific expertise and resources to ensure objective and transparent studies as the leading intergovernmental authority on olive oil and table olives.

Conclusion

14. CCFO29 thanked FAO, WHO and IOC for their updates and noted the information provided and their technical support to develop capacities in developing countries.

STANDARD FOR NAMED VEGETABLE OILS (CXS 210-1999), APPENDIX SECTION 5 METHODS OF ANALYSIS AND SAMPLING – FITNESS FOR PURPOSE OF THE METHOD FOR DETERMINATION OF GAMMA ORYZANOL IN RICE BRAN OIL (Agenda item 4)⁵

15. CCFO29 recalled that, at its previous session, discussions regarding the transfer of the method for determining gamma oryzanol in rice bran oil transcribed in CXS 210-1999 were deferred to this session. The Codex Secretariat was requested to issue a circular letter (CL) to gather information on whether the method remained "fit for purpose" and should be included in the *Recommended methods of analysis and sampling* (CXS 234-1999), as well as to identify any alternative methods suitable for endorsement by CCMAS and inclusion in CXS 234-1999.
16. The Codex Secretariat presented a summary of the responses to the CL and these generally indicated: (i) support for transferring the current UV spectrophotometric method from CXS 210-1999 to CXS 234-1999 as Type IV; (ii) confirmation of the method as fit for purpose; and (iii) ongoing work to develop alternative methods by the International Organisation for Standardisation (ISO), among others.
17. CCFO29 noted the following comments and views concerning the method:
 - a) *Fitness for purpose*: Based on analytical experience, the method was easy to use; simple and accessible by laboratories due to its low cost and it was therefore fit for purpose.
 - b) *Interlaboratory testing*: The method had been assessed through inter-laboratory tests across 12 laboratories and the results confirmed that the method was effective.
 - c) *Alternative methods*: Two alternative methods for the determination of gamma oryzanol in rice bran oil (spectrophotometer method and high-performance liquid chromatography method) were under development within ISO, that should these two standards be published, they should also be recommended to CCMAS for their inclusion in CXS 234-1999.

Conclusion

18. CCFO29 recognised that the method for the determination of gamma oryzanol from CXS 210-1999 in CXS 234-1999 continued to be fit for purpose, and:

⁵ CX/FO 26/29/4; CX/FO 26/29/4 Add.1 (Comments of Chile, China, Cuba, Ecuador, Egypt, European Union, Iran (Islamic republic of) and Senegal); CRD07 (Burundi, Egypt, Kenya and United Republic of Tanzania); CRD24 (Nigeria); CRD27 (East African Community (EAC)); CRD30 (Panama)

- i. agreed to forward the method and its characterization (Provision, Method, Principle, and Type) to CCMAS for re-endorsement; retyping as Type III (considering the interlaboratory studies carried out in one country) and subsequent inclusion in CXS 234-1999 (Appendix II); and
- ii. noted the ongoing ISO efforts to develop two validated alternative methods for the determination of gamma oryzanol and encouraged Members and Observers to provide feedback to CCFO and CCMAS once such methods were finalized and published, for their potential conclusion in CXS 234-1999.

PROPOSED DRAFT REVISIONS TO CODEX STANDARDS ON FATS AND OILS TO REDUCE TRANS-FATTY ACID (TFA) INTAKE (Agenda item 5)⁶

19. Canada, as chair of the EWG and IWG, speaking also on behalf of Saudi Arabia, as co-chair, summarized the work undertaken by the EWG and the discussions of the IWG to revise the *Standards for: edible fats and oils not covered by individual standards* (CXS 19-1981), *named animal fats* (CXS 211-1999), and *fat spreads and blended spreads* (CXS 256-1999) to support the WHO REPLACE initiative aimed at reducing the intake of iTFA. The EWG/IWG chair noted that the EWG had reached agreement on several structural aspects across the three standards including a footnote to clarify the meaning of hydrogenation in section 1; the consolidation of definitions under section 2; the inclusion of the iTFA/partially hydrogenated fats and oils (PHO) provision under section 3; and the inclusion of methods of analysis for TFA. The EWG/IWG chair noted that based on the outcome of the EWG and written comments received, further discussion was required on the following:
 - The wording of the provisions in section 3, which set out a dual approach (i.e. to establish iTFA limits and/or prohibit PHO). It was noted that there was mixed support for this approach, but the EWG chair indicated that the dual approach was in keeping with the WHO policy and the approach approved in the project document.
 - Compliance verification: Two options were proposed: to include a concise footnote acknowledging the use of non-analytical measures such as ingredient declarations, to support verification of both the iTFA numerical limit and the PHO prohibition, or not to include a footnote. Views remained split, leading to the text being placed in square brackets.
 - Definitions: The revised definitions for fully hydrogenated fats and oils, PHO, and iTFA were proposed. The EWG/IWG chair noted that technical concerns were flagged by Members.
20. The EWG/IWG chair indicated that the IWG had focused on these three aspects and recalled that there was broad support for a 2% iTFA limit, but views varied on including a PHO prohibition as part of the provisions in Section 3 and hence the latter was put in square brackets. With regard to compliance verification, the IWG noted the views of some delegations on the practical role of non-analytical tools, and included text recognising the limitations in analytical methods for differentiating iTFA from naturally occurring TFA, but could not reach agreement on whether to include a footnote and moved the proposed text to Section 8: Methods of analysis and sampling for further consideration together with the methods of analysis once the provisions in Section 3 had been agreed upon. Members had also proposed edits to simplify, clarify, or restructure definitions, and alternative process-based definitions were drafted. However, substantial divergence remained resulting in the retention of the drafted text in square brackets.
21. The EWG/IWG chair emphasized that despite the unresolved elements, the EWG and IWG had made substantial progress, producing a structured draft and a set of identified issues for plenary discussions. The EWG/IWG chair reaffirmed the importance of preserving flexibility in the standard, reflecting the two WHO endorsed regulatory pathways, and thanked all Members for their active engagement throughout the process.

Discussions

22. CCFO29 agreed to use CRD02, Annex I Part 1 (Proposed draft revisions to CXS 19-1981), as the basis for its discussions, focusing on the proposed amendments within the standards, before considering other recommendations from the EWG.

⁶ CL 2025/79-FO; CX/FO 26/29/5 & Add.1 (Comments of Argentina, Australia, Brazil, Canada, Chile, Costa Rica, Ecuador, Egypt, Food Industry Asia (FIA), Guatemala, Indonesia, Japan, Kenya, Malaysia, Norway, Panama, Paraguay, Qatar, Thailand, Tunisia, United Arab Emirates, United States of America, Uruguay, Coalition for Americas' Health, International Commission for Uniform Methods of Sugar Analysis (ICUMSA), International Dairy Federation (IDF/FIL), International Association of Consumer Food Organizations, the Healthy Caribbean Coalition, World Health Organization (WHO), World Federation of Public Health Associations, World Public Health Nutrition Association); CRD02 (Report of the IWG submitted by the IWG Chair (Canada)); CRD08 (Bangladesh, Burundi, Egypt, European Union, India, Kenya, New Zealand, Peru, Uganda, United Republic of Tanzania, EU Vegetable Oil and Proteinmeal Industry (FEDIOL) and International Dairy Federation (IDF)); CRD20 (Canada); CRD23 (El Salvador, Ghana, Nigeria, Russian Federation, NCD Alliance and United Nations Children's Fund (UNICEF)); CRD27 (East African Community (EAC)); CRD28 (Food Industry Asia (FIA)); CRD29 (Senegal); CRD30 (Panama); CRD38

Scope

23. CCFO29 considered the proposed footnote intended to clarify the term "hydrogenation", and noted the following views:
- the footnote provided no added value and should be deleted.
 - the footnote was not appropriate for inclusion under the scope as it could give the impression that partially hydrogenated fats and oils were within the scope of the respective standards.
 - the footnote provided no clear distinction between PHO and Fully Hydrogenated Fats and oils and it should not be included in the scope to avoid misinterpretation; and
 - the word "full" could be included before hydrogenation to improve clarity; however, concerns were expressed with this approach as it was technically inaccurate.
24. CCFO29 therefore agreed to remove the footnote and maintain the word "hydrogenation" in the scope of CXS 19-1981 without further clarification.

Descriptions – Product definitions

25. CCFO29 noted that there were two recommendations from the EWG for consideration under this provision i.e. the placement of a new section – "Section 2.2 Other definitions" and the definitions themselves. Recalling the agreement in the EWG on the placement of definitions, CCFO focussed its discussions on the definitions themselves.

*2.2. Other definitions*Fully Hydrogenated Fats and Oils / Full hydrogenation of fats and oils

26. CCFO29 considered both product-focused and process-focused definitions, and noted concerns regarding:
- the clarity of the definitions, that were geared toward supporting the methods for identification and control of hydrogenated products;
 - the lack of content in the definition to confirm or differentiate "full hydrogenation" from "partial hydrogenation";
 - the importance of indicating the transformation processes that produce TFA within the definition; and
 - the complexity of the definition, noting that some of the technical terms therein (e.g. isomerization; cis configuration) might require further definition to aid understanding.
27. The EWG/IWG chair suggested that with the removal of the footnote to "hydrogenation" in the scope of CXS 19-1981, which was the only place that the term "full hydrogenation" appeared in the standard, the definition of "fully hydrogenated fats and oils" may no longer be necessary.
28. Recalling that definitions should only be provided to facilitate the understanding of the content of the standard, CCFO29 agreed to delete the definition for Fully Hydrogenated Fats and Oils / Full hydrogenation of fats and oils.

Partially hydrogenated fats and oils/ partial hydrogenation of fats and oils and industrially produced *trans*-fatty acids

29. CCFO29 noted that the need for these definitions was dependent on the provisions to be included in Section 3 of the standard and therefore agreed to consider the proposed draft provisions relating to iTFA and PHO before discussing these definitions.
30. Following consideration of the provisions in Section 3, CCFO29 exchanged views on these definitions.

Definition for partially hydrogenated fats and oils / partial hydrogenation of fats and oils

31. Members were of the view that the definition:
- was overly long and complex and did not need a complete description of the partial hydrogenation process.
 - used unfamiliar chemical terminology which may need further explanation.
 - should include ranges or thresholds for iTFA to make the connection between PHO and iTFA.
 - should not include iTFA cut-off or iTFA threshold since iTFA could originate from other processes; and
 - lacked the information necessary to support analytical-based approaches in enforcement.

32. Proposals to include a range or value for iTFA (25-45% iTFA; more than 2% iTFA) were not supported.

Definition for industrially produced trans-fatty acids

33. Members expressed a range of views on the definition as follows:
- Examples of refining processes which generated small quantities of iTFA should not be included.
 - All processes that contributed to the formation of iTFA should be included.
 - The last sentence should be deleted as it went beyond the scope of a definition on iTFA.
 - The term “other TFA” should be replaced with “naturally occurring TFA” in the last sentence of the definition.
 - The definition should not include a reference to methodology.
 - It was not necessary to explain methodological challenges and difficulties in analytically distinguishing iTFA from other TFA in the definition.
34. With no consensus on either definition, CCFO29 agreed to place both definitions, with some delegations proposing the deletion of the last sentence in the iTFA definition, in square brackets for further consideration as per CRD38.

Section 3: Essential composition and quality factors

35. CCFO29 considered the proposed dual approach, comprising the following two options for addressing the reduction in iTFA intakes:
- Option a - a numerical limit of 2g iTFA per 100g total fatty acids, and
 - Option b - a prohibition on the production and use of PHO.
36. With regard to the use of the term “total fatty acids” in “option a” rather than “total fats” used in WHO policy, the WHO representative clarified that the chemically accurate term for use in a technical standard was “total fatty acids”.
37. Two distinct positions emerged among delegations, with some Members proposing the retention of “option a” only and other Members supporting the dual option ((a) and/or (b)) approach.

Option a

38. Members expressing a preference for retaining “option a” only were concerned that including both options within the essential composition section created confusion within a standard that should specify measurable characteristics of the final product. These Members stressed that commodity standards should contain clear and enforceable product specifications rather than process based regulatory guidance (requirements). These Members highlighted that a single product specification should be established in the standard allowing countries to choose how to achieve the desired outcome. Including different specifications on the same parameter could result in divergent regulatory environments, potentially leading to trade disruptions.
39. Some Members expressed the view that while the 2% iTFA limit described in “option a” provided a verifiable, measurable basis for compliance, the absence of a universally accepted analytical means to detect PHO made it difficult to monitor compliance. A prohibition on PHO was viewed by these Members as a risk management measure, best handled within national legislation. These Members were of the view that the prohibition on PHO should be rather considered as a means to achieve the limit for iTFA established in the standards.

Options a and/or b

40. Members advocating for retaining “options a and/or b” in the standards stressed that the provisions should preserve flexibility to accommodate diverse national regulatory frameworks; that this was in line with the WHO policy guidance recognizing both approaches as best practice tools for iTFA elimination and noted that the dual option framework had already been agreed in approving this new work. It was also indicated that Codex already used prohibitions in certain standards, indicating that such measures were neither unprecedented nor incompatible within the Codex system.
41. These Members further underscored that the dual approach reflected the different approaches taken by Members, and that a Codex standard restricted to “option a” alone could render some national approaches incompatible with that Codex standard. These Members reiterated that a PHO prohibition was an effective means of reducing iTFA at their source, enabling governments, particularly in resource-constrained settings, to adopt upstream measures that required fewer laboratory resources compared to routine TFA testing.

42. CCFO29 noted the lack of agreement on the proposed draft provisions but also recognized the need to find a way to reflect both approaches in the standards. Several options were proposed such as retaining “option a” only with a footnote acknowledging nationally applied policy approaches; parallel work on best practices to reduce iTFA formation, complementing whichever regulatory approach a country chooses; or reference to national context and legislation in the provision itself. Despite extensive discussion, CCFO remained fundamentally divided on this provision.
43. The Codex Secretariat underscored the importance of preserving the spirit of commodity standards, which was to provide objective, measurable product characteristics rather than prescribe regulatory actions or guidance. While acknowledging that prohibitions do exist in some Codex texts, the Codex Secretariat cautioned against assuming that approaches used for multi-ingredient products such as infant formula were directly applicable to fats and oils. The Codex Secretariat stressed that it was important to avoid setting unintended precedents and encouraged Members to consider how best to accommodate flexibility and address Members’ policy needs, without compromising clarity or the structural integrity of the standard.
44. The WHO representative emphasized that both approaches, the 2% iTFA limit and the PHO prohibition, were internationally recognized best practice policy options under the WHO REPLACE initiative. The representative noted that while the two approaches had distinct strengths and limitations, they had been formulated based on country experiences, and both had been successfully deployed by countries worldwide to reduce exposure to iTFA. The representative clarified that PHO bans were process-based, targeting the upstream source of iTFA, whereas a numerical limit for iTFA ensured control at the final product level. Acknowledging the challenges faced by CCFO and the substantial national experience supporting both tools, WHO indicated that retaining both options within the Codex framework could be justified, while recognizing the need to formulate suitable language to achieve consensus.

Consideration of a revised provision under Section 3

45. Noting the absence of consensus on the expression of the concept of the provisions in Section 3, the chairperson tasked interested Members to prepare a revised proposal for consideration by this session, taking into consideration the discussion thus far.
46. CCFO29 considered the revised proposal which was structured around three key elements:
 1. An introductory clause stating that the application of the provisions should be consistent with national and regional policies and legislation.
 2. Section 3.1, retaining the limit of 2g iTFA per 100g total fatty acids in the final product covered by the standard.
 3. Section 3.2, requiring that products covered by the standard “shall not be partially hydrogenated,” reframing the PHO provision as a compositional characteristic rather than a process requirement.
47. Members expressing support for this revised proposal considered that the text preserved flexibility for implementation; recognized diverse national regulatory models and existing national frameworks; and provided greater clarity with regard to product composition. It was proposed to reintroduce the words “and/or” between sections 3.1 and 3.2 to emphasise the flexibility offered by the text.
48. Other Members expressed concerns that the revised proposal still recommended two parallel approaches. In their opinion, this revised proposal was not enforceable, promoted divergent applications across countries, and introduced potential barriers to trade. These Members proposed adding a qualification to Section 3.2, allowing partial hydrogenation only if the final product still complied with the 2% iTFA limit. This amendment, however, did not receive general support as it was considered to undermine PHO prohibition, collapsing the dual -approach system back into a single option.
49. While there was general recognition on the need to reflect both approaches, there was no consensus on how this could be best achieved. Some delegations indicated the need to first agree on the definitions for “partial hydrogenation” and “industrially produced *trans*-fatty acids” as this would enable them to assess the revised proposal on the provisions. As no consensus could be reached on the definitions, CCFO29 agreed that these provisions would need to be further discussed.
50. The chairperson, noting the complexity of reaching consensus on the unresolved issues and the integral nature of both iTFA limits and PHO prohibition in the proposed draft revisions to the standards, proposed to suspend further discussions until consensus was reached on these aspects.

Conclusion

51. CCFO29 agreed to:
 - i. return the proposed draft revisions to Step 2/3 for redrafting;
 - ii. establish an EWG, chaired by Saudi Arabia and co-chaired by the European Union, working in English,

to:

- a. revise both the definitions and the essential composition provisions and related aspects on checking for compliance. i.e. methods of analysis, taking into consideration all comments submitted to, discussions at CCFO29, and changes made contained in CRD38; and
 - b. prepare a report of the EWG to be submitted to the Codex Secretariat no later than three months before CCFO30.
- iii. keep open the possibility of holding intersessional physical / virtual working group(s) in advance of CCFO30 to consider the proposed draft revisions.

PROPOSED DRAFT STANDARD FOR MICROBIAL OMEGA-3 OILS (Agenda item 6)⁷

52. The United States of America, as the chair of the EWG, speaking also on behalf of the co-chair China, introduced the item and recalled the background of the work, mandate of the EWG, work process, and key points of discussions in the EWG. The EWG chair explained that to facilitate discussions, the proposed draft standard in CX/FO 26/29/6 was revised based on comments in response to CL 2025/80-FO. The revisions were presented in CRD21.
53. CCFO29 was invited to consider the advancement of the proposed draft standard in the Step Procedure and agreed to use CRD21 as the basis for discussions.

Discussion

54. CCFO29 discussed and agreed on the changes to the following sections, in addition to making editorial amendments.

Section 2.1 Named microbial omega-3 oils

55. The WHO representative highlighted that omega-3 oils were commonly added to infant formula and stressed that safety aspects, especially those involving vulnerable populations, should be considered in the elaboration of this standard, particularly given the recent contamination incident involving infant formula. The EWG chair explained that the standard should be implemented in tandem with good manufacturing practices (GMP) and hygiene practices when producing microbial omega-3 oils.
56. The WHO representative also indicated that sufficient scientific data should be reviewed to determine whether a product had a "history of safe use". The EWG chair clarified that it was up to the country of retail sale to determine whether a product had a "history of safe use" and this determination would include an evaluation of the scientific data relating to the safety of the organism used.
57. CCFO29 did not support a proposal to replace the reference to "history of safe use as food" with an indication that named microbial omega-3 oils were derived from an edible microbial taxon. This was because the microbial species used to produce omega-3 oils were not intended for consumption, and such an indication could result in the incorrect application of the standard to inedible crude oils produced by edible microbial taxons. CCFO29 instead agreed that the phrase "as food" should be deleted for clarity.

Section 2.2 Concentrated microbial omega-3 oils

58. CCFO29 noted the clarification that concentrated microbial omega-3 oils occurred in the liquid state.

Section 3.2 Quality factors

59. CCFO29 noted the clarification that the quality parameters in Table 2 applied to both concentrated and non-concentrated microbial omega-3 oils and agreed to amend section 3.2.1 accordingly.
60. A Member expressed concern that the text indicating that peroxide value, anisidine value, TOTOX and acid value did not apply to flavoured and intensely coloured microbial omega-3 oils, would negatively impact quality control and the enforcement of Table 2 parameters in microbial omega-3 oils. CCFO29 agreed to delete the text, noting the explanation that the three types of microbial omega-3 oils in the proposed draft standard, *Cryptocodinium*, *Schizochytrium* and *Ulkenia* were neither flavoured nor intensely coloured.

⁷ CL 2025/80-FO; CX/FO 26/29/6 & Add.1 (Comments of Brazil, Chile, China, Colombia, Ecuador, Egypt, Honduras, Indonesia, Iran (Islamic republic of), Japan, Jordan, Malaysia, Peru, Sudan, Thailand, the United States of America and the Global Organization for EPA and DHA Omega-3s (GOED)); CRD09 Rev.2 (Burundi, Egypt, European Union, India, Kenya, Uganda, United Republic of Tanzania and the Global Organization for EPA and DHA Omega-3s (GOED)); CRD21 (United States of America); CRD22 (China and United States of America); CRD25 (Ghana); CRD27 (East African Community (EAC)); CRD29 (Senegal); CRD30 (Panama)

61. CCFO29 agreed to introduce a provision similar to that in CXS 210-1999, to specify that the colour, odour and taste of each microbial omega-3 oil product shall be characteristic of the designated product and that the product shall be free from foreign and rancid odour and taste. These quality parameters could be determined by sensory evaluation without the need for analytical methods.
62. In response to a request to include provisions for desmethylsterols and cholesterol, it was indicated that desmethylsterols were not considered to be a relevant quality parameter for microbial omega-3 oils. While CCFO was not aware of any available data on cholesterol in microbial omega-3 oils, cholesterol levels in microbial omega-3 oils were expected to be minimal as microbial omega-3 oils should not contain animal fats.

Section 4 Food Additives

63. CCFO29 noted that microbial omega-3 oils did not fit within the existing food categories (FCs) in the *General standard for food additives* (GSFA, CXS 192-1995). Members supported the proposal to:
 - (a) replace the reference to FC 02.1.3 with an indication that the FC was to be determined;
 - (b) request CCFA to establish a new FC for microbial oils; and
 - (c) provide CCFA with technological justifications on the use of food additives within this new FC (Appendix III Part 2).
64. It was also noted that creating a new FC would provide Codex with the flexibility to accommodate future developments in microbial oils, and address emerging issues related to new food sources and production systems.
65. CCFO29 recommended that the new FC could be established under FC 02.1 (Fats and oils essentially free from water) within the parent category FC 02.0 (Fat and oils, and fat emulsions) with the following description.

02.1.4 Microbial oils and fats: Edible fats and oils obtained from oleaginous microorganisms, including but not limited to microalgae, protists, fungi, or yeast, and not derived from plants or animals. These oils and fats are intended for use as edible fats and oils or as ingredients in foods. This category also encompasses concentrated forms of specific fatty acids.
66. CCFO29 agreed that the descriptor of the new FC should not be specific to only microbial omega-3 oils so that other types of microbial oils could be included in the future.
67. CCFO29 also recommended to amend the descriptors of FC 02.0 and FC 02.1 to include microbial oils as follows:

02.0 Fats and oils, and fat emulsions: Includes all fat-based products that are derived from vegetable, animal, microbial or marine sources, or their mixtures.

02.1 Fats and oils essentially free from water: Edible fats and oils are foods composed mainly of triglycerides of fatty acids from vegetable, animal, microbial, or marine sources.
68. Noting that a justification was needed when requesting CCFA to create a new FC and/or amend existing FCs, CCFO agreed to inform CCFA that:
 - FC 02.1 did not currently provide for concentrated forms of specific fatty acids, such as microbial omega-3 oils as well as specific lipid types such as phospholipids from microbial sources in general and certain animal sources covered by the *Standard for fish oils* (CXS 329-2017); and
 - The new FC 02.1.4 was proposed for inclusion in CXS 192-1995 because microbial oils and fats were derived from sources not covered in the existing FCs.
69. CCFO29 further noted that microbial origin oils did not only include triglyceride fatty acids but also other fatty acids (e.g. fatty acid ethyl esters and fatty acids in free form), as was the case for some fish oils, and hence the reference to triglyceride fatty acids in FC 02.1 could exclude some microbial origin oils intended for human consumption. However, CCFO29 was unable to propose a suitable amendment in FC 02.1 to reflect this and requested CCFA to advise in this regard.
70. CCFO29 agreed with the proposed maximum use levels for various food additives in microbial omega-3 oils contained in CRD09 Rev.2, noting that the proposed maximum use levels for ascorbyl esters (INS 304 and 305) and tocopherols (INS 307a, 307b, 307c) would be the same as those for fish oils as indicated in the notes of the table. CCFO29 also noted that rosemary extract (INS 392) could be included for endorsement by CCFA as it has been fully evaluated by JECFA.

Section 5 Contaminants

71. CCFO29 noted the need to extend the following provisions to microbial omega-3 oils:
 - The maximum levels (MLs) of 0.1 mg/kg for arsenic and 0.08 mg/kg for lead in edible fats and oils, as

defined in the *General standard for contaminants and toxins in food and feed* (CXS 193-1995).

- The notes/remarks associated with the ML of arsenic in CXS 193-1995 which indicated that the ML referred to inorganic arsenic (As-in) for fish oils.

Section 6 Hygiene

72. CCFO29 agreed to amend Section 6.1 General Hygiene to ensure that the section made references to other relevant Codex texts in addition to the *General principles of food hygiene* (CXC 1-1969), and to transfer the reference to *Code of practice for the storage and transport of edible fats and oils in bulk* (CXC 36-1987) to Section 5 (Contaminants). The EWG chair emphasised that Section 6.2 on microbiological criteria were necessary since the product originated from microbial sources and its inclusion was consistent with other commodity standards. CCFO29 further agreed to delete the titles of Sections 6.1 and 6.2.

Section 7 Labelling

73. CCFO29 agreed to include the reference to the *General guidelines on claims* (CXG 1-1979) in the chapeau as the guidelines did not only apply to declarations of eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) content and deleted it from Section 7.3. A Member questioned the need to retain Section 7.3 in this case as CXG 1-1979 covered all types of claims. CCFO29 nevertheless agreed to retain Section 7.3 as it referred to specific regulatory requirements set by the country of retail sale and further agreed to include the following sentence at the end of Section 7, "in addition, the following specific provisions apply".
74. CCFO29 noted that CXS 329-2017 contained labelling provisions relevant to EPA and DHA content and considered if similar provisions could be applied in Section 7.3. An alternative proposal was offered which indicated that beyond EPA and DHA content, general requirements specified by the authorization process of the competent authority of the country where the product was placed on the market would apply. CCFO29 refined the alternative proposal to ensure that it explicitly encompassed the need for microbial omega-3 oils to contain declarations of EPA and DHA content and meet any other labelling requirements specified by the country of authorisation.

Section 8 Methods of analysis and sampling

75. CCFO29 agreed on the methods of analysis with amendments. Since two type I methods were proposed for moisture and volatile matter, CCFO29 requested CCMAS to review the method typing for this provision and either retype one of the methods or endorse only one of them.

Appendix Table 2 Quality parameters of named microbial omega-3 oils and their concentrate

76. A Member organisation proposed that the limits of the following parameters be lowered as follows:
- Anisidine value: To lower the limit from ≤ 20 to ≤ 10 , as elevated values were associated with off odours and off flavours and could indicate increased exposure to chemically reactive aldehydes, which may raise concerns in relation to chronic exposure and oxidative stress.
 - TOTOX: To lower the limit from ≤ 26 to ≤ 20 , as elevated values could indicate advanced oxidative deterioration, reduced nutritional quality and increased presence of biologically reactive lipid degradation products.
 - Acid value: To lower the limit from ≤ 3 to ≤ 0.5 , as elevated values, together with elevated free fatty acid levels, could increase the susceptibility of the oil to oxidation and contribute to the formation of degradation products and increased exposure to oxidised lipids.
77. An Observer indicated that the original values reflected harmonised maximum limits across the global EPA and DHA omega-3 oil industry; one novel food authorisation granted for *Cryptocodinium* oil specified a maximum anisidine value of 20; many countries have established compositional guidelines and monographs for *Cryptocodinium* and *Schizochytrium* oils that supported the original values; and occurrence data within the industry suggested that it may not be possible to comply with an acid value limit below 1.0.
78. CCFO29 agreed to place the values and explanatory note in square brackets for further consideration, noting that a more detailed evaluation of scientific studies may be needed before the values and explanatory note could be finalised.

Appendix Table 3 : Other quality and composition factors

79. CCFO29 agreed to place the table in square brackets noting that it would need to be revised further.

Other issues

80. A Member noted that consequential to the final adoption of the proposed draft standard, CXS 19-1981 would need to be amended to ensure that it excluded microbial omega-3 oils but would cover blended oils including blends with microbial oils.
81. CCFO29 agreed that the inclusion of weights and measures provisions in this standard and other fats and oils standards could be considered in the future as needed, noting that commodity committees had the flexibility to determine the appropriate format for standards under their purview even if it might not fully adopt the format recommended in Section 2.6 of the *Codex Procedural Manual*.

Conclusion

82. CCFO29 agreed to:
- i. forward the draft standard for microbial omega-3 oils to CAC49 for adoption at Step 5 (Appendix III Part 1);
 - ii. forward the provisions for labelling and methods of analysis to CCFL and CCMAS respectively for endorsement, noting that one of the methods may need to be retyped (see paragraph 75);
 - iii. request the Codex Committee on Contaminants in Foods (CCCCF) to consider extending the MLs of arsenic and lead for edible fats and oils in CXS 193-1995 as well as the notes/remark associated with the ML of arsenic to microbial omega-3 oils;
 - iv. forward the food additive provisions to CCFA for endorsement (Appendix III Part 2) and request CCFA to advise on the appropriate categorisation of microbial omega-3 oils in CXS 192-1995, taking into account the proposals and justifications in paragraph 68 and noting the following:
 - a. CCFO was unable to assign a food category for microbial omega-3 oils, since according to the GSFA FC System, neither FC 02.0 (Fats, oils and emulsion), nor its sub-categories currently include oil from microbial sources.
 - b. CCFO preferred to establish a new sub-category for oils of microbial origin.
 - c. FC 02.0 and FC 02.1 would need to reflect microbial oils and the reference to triglycerides in FC 02.1 should be broadened to reflect the different types of oils including microbial oils for human consumption (see paragraph 67).
 - v. establish an EWG, chaired by the United States of America and co-chaired by China, working in English, to:
 - a. consider the outstanding issues in square brackets, taking into account the discussions at CCFO29, and the comments submitted at Step 5/6 in reply to the CL that would be issued subject to the adoption of the proposed draft standard at Step 5 by CAC49;
 - b. elaborate proposed draft revisions to CXS 19-1981 that would need to be applied consequential to the final adoption of the proposed draft standard for microbial omega-3 oils at a future session of CAC; and
 - c. prepare a report of the EWG for consideration by CCFO30, which should be submitted at least three months prior to the session.
 - vi. keep open the possibility to convene a pre-session working group in advance of CCFO30 to further refine the draft standard.

REVIEW OF THE LIST OF ACCEPTABLE PREVIOUS CARGOES (APPENDIX II TO CXC 36-1987) (Agenda item 7)⁸

83. Malaysia, as chair of the EWG, introduced the item and informed CCFO29 that the work was based on replies received in response to CL 2025/21-FO inviting proposals for amendments to Appendix II – List of Acceptable Previous Cargoes (LOAPC) in CXC 36-1987. The EWG considered the replies and made a number of recommendations for consideration by CCFO29.
84. CCFO29 considered each of the recommendations one by one.

⁸ CL 2025/78-FO; CX/FO 26/29/7 & Add.1 (Comments of Canada, Ecuador, Egypt, European Union, Iran (Islamic republic of), New Zealand, Paraguay, Peru, Senegal, United Arab Emirates and International Commission for Uniform Methods of Sugar Analysis (ICUMSA)); CRD10 (Burundi, Kenya, Uganda and United Republic of Tanzania); CRD24 (Nigeria); CRD25 (Ghana); CRD27 (East African Community (EAC)); CRD29 (Senegal); CRD30 (Panama)

Discussion

Recommendation (a): Limits of 2.0 mg/kg MOAH for mineral oil, medium and low viscosity, class II and mineral oil, medium and low viscosity, class III

85. CCFO29 considered the EWG recommendation to not introduce a limit of 2.0 mg/kg for mineral oil aromatic hydrocarbons (MOAH) – limit of quantification for the sum of MOAH $\geq$ C10 to $\leq$ C50 for the two substances “mineral oil, medium and low viscosity, class II (highly refined food-grade)”, and “mineral oil, medium and low viscosity, class III (highly refined food-grade)”, and noted the following views:
- A quantitative limit of 2.0 mg/kg MOAH was necessary to ensure adequate protection of consumer health, as these substances could contain genotoxic carcinogens.
 - Limits for contaminants were not normally applied to previous cargoes, and their practical enforcement would be problematic as there would be no mechanism to test vessels upon docking to port.
 - Based on the existing JECFA evaluations, which also considered possible contaminants, specifying that these mineral oils should be highly refined and of food grade was considered sufficient.
 - Establishing such a limit could set an undesirable precedent.
86. The FAO representative informed CCFO on the results of the JECFA90 assessment with regard to mineral oil, medium and low viscosity, class II and mineral oil, medium and low viscosity, class III. Commercial mineral oil hydrocarbons (MOH) products range from being free of mineral oil aromatic hydrocarbons (food grade mineral oil) to containing 30% MOAH (crude mineral oil). CCFO29 noted that crude mineral oil is banned as a previous cargo and MOAH, which contains mutagenic and carcinogenic substances, would be unacceptable as a previous cargo. The JECFA evaluation was conducted under the assumption that mineral oil products shipped as previous cargoes are highly refined food-grade products free of MOAH.

Conclusion

87. CCFO29 endorsed the EWG’s recommendation and agreed that a limit of 2.0 mg/kg MOAH for mineral oil, medium and low viscosity, class II and mineral oil, medium and low viscosity, class III should not be established, opting to retain the substances as previously listed.

Recommendation (b): Maintain mineral oil, high viscosity (CAS number 8012-95-1) and mineral oil, medium viscosity in the List of Acceptable Previous Cargoes

88. CCFO29 noted that CCFO24 (2015) agreed to include the mineral oil, high viscosity and mineral oil, medium viscosity in the LOAPC, as they satisfied all four Codex criteria and were evaluated by JECFA, which assigned ADIs and specifications indicating that these were highly refined food-grade products.
89. A Member Organisation noted that these two substances have been reported to contain certain genotoxic carcinogens arising from the possible MOAH contamination. As consumer safety was of great concern, the Member Organisation proposed that they be removed from the LOAPC.
90. There was general support to add the descriptor “highly refined food-grade” to clearly distinguish these substances from non-food-grade mineral oils in order to address the concern that the nature of the mineral oil was not specified.
91. The FAO representative informed CCFO that mineral oil, high viscosity and mineral oil, medium viscosity had been assessed previously by JECFA as food additives (the substances were food-grade substances produced by highly refining steps).

Conclusion

92. CCFO29 endorsed the EWG’s recommendation to retain mineral oil, high viscosity and mineral oil, medium viscosity in the LOAPC, and agreed to amend the entry by adding the wording “highly refined food-grade” to these substances, i.e.
- Mineral oil, high viscosity (**highly refined food-grade**)
 - Mineral oil, medium viscosity (**highly refined food-grade**)
93. The European Union expressed its reservation regarding the retention of mineral oil high viscosity (CAS number 8012-95-1) and mineral oil medium viscosity in Appendix 2 of CXC 36-1987, citing concerns that the MOAH fraction of mineral oils contained certain genotoxic carcinogens and would present potential health risks associated with consumer exposure.

Recommendation (c) Removal of nitric acid (CAS number 7697-37-2) from the List of Banned Immediate Previous Cargoes and its inclusion in the List of Acceptable Previous Cargoes

94. CCFO29 noted that no adequate and or relevant scientific information had been submitted to support the transfer of nitric acid (CAS number 7697-37-2) from the List of Banned Immediate Previous Cargoes to the LOAPC.

Conclusion

95. CCFO29 agreed that nitric acid (CAS number 7697-37-2) would remain on the List of Banned Immediate Previous Cargoes and to only reconsider it once adequate supporting information was provided.

Recommendation (d) Amendment to the entry of ethanol (CAS number 64-17-5) to clarify the status of denatured alcohol

96. CCFO29 considered the recommendation to amend the entry for “ethanol (CAS number 64-17-5)” to “ethanol (denatured alcohol is acceptable only if the denaturant is present in the List of Acceptable Previous Cargoes)”. CCFO29 recognised the EWG chair’s explanation that permitting denaturants not specified in the LOAPC could introduce substances that may present health risks and recognised that the recommendation was intended to promote clarity and mitigate the risk of unassessed denaturants.
97. An Observer highlighted that the majority of denatured ethanol traded globally contains the denaturant denatonium benzoate (commonly known by its trade name, Bitrex), which was neither included in the LOAPC nor in the list of banned immediate previous cargoes. The proposed amendments would thus render denatured ethanol containing Bitrex unacceptable as a previous cargo, potentially causing significant disruption to trade. It was further noted that Bitrex, due to its high degree of bitterness, was only used at low concentrations, up to 10 mg/kg, and that with current tank-cleaning and inspection procedures, the likelihood of harmful contamination from this denaturant was considered extremely low. On this basis, it was proposed to include the trade name “Bitrex” or denatonium benzoate as acceptable in the proposed draft amendment to the entry of alcohol in order to allow the use of this denaturant.
98. CCFO29 discussed the recommendation together with the proposal to include “Bitrex” and noted the following views:
- The denaturant must be listed on the LOAPC to demonstrate completion of a risk assessment and to prevent the use of any unassessed denaturants.
 - While safety considerations were essential, it was equally important to carefully assess the trade implications associated with adopting the proposed text.
 - Denatured ethanol was only acceptable when the specific type of denaturant used was included in the list. Several approved denaturants currently in the LOAPC have undergone JECFA assessment and remain available for use.
 - As denatonium benzoate was only used as an additive to ethanol, it could not be considered as a previous cargo, and it would not be appropriate to include it in the LOAPC.
99. The FAO representative informed CCFO29 that JECFA could evaluate denatonium benzoate if requested and scientific data were available.
100. There was a lack of consensus on the proposed draft amendment to clarify the entry for ethanol in LOAPC.

Conclusion

101. CCFO29:
- i. agreed to retain the original ethanol entry in the LOAPC without introducing any new explanatory text; and
 - ii. noted that future consideration of denaturants used in ethanol would require submission of data for JECFA evaluation, after which the matter could be revisited.
102. The European Union expressed its reservation to the decision to not include the qualifying text proposed by the EWG because ethanol is also transported in a denatured form. Denatured ethanol should only be acceptable as a previous cargo, provided that the denaturant was also included in the LOAPC, which meant that it had been subject to risk assessment. It was not appropriate to only require that the denaturant to not be included in the list of banned substances, as proposed in the EWG initially, since this would allow the presence of all possible denaturants, which have not yet been assessed. There were alternative denaturants already in the LOAPC, and therefore the proposed qualifying text was reasonable.

Recommendation (e) – Development of a standard template for submission of the information required for proposals to amend the List of Acceptable Previous Cargoes

103. CCFO29 considered the recommendation to develop a standard template for submitting proposals to amend the LOAPC and noted the following proposals:
- The available methods of analysis to verify the presence of trace amounts or the absence of the substance in oils and fats should be included in the template.
 - A column should be included to confirm if there was presence/absence of genotoxic carcinogens (use yes or no).
 - National or regional risk assessments should also be considered in case there was no JECFA assessment.
 - Criterion on allergenicity should be extended beyond food allergens to all known allergens.
104. CCFO29 noted that the current template will be updated by the EWG chair based on comments received this session and the revised template to be piloted with the upcoming CL for proposal for further amendments to the LOAPC.
105. The EWG chair emphasized that any suggested modifications to the template should not necessitate amendments to CXC 36-1987. The criterion related to allergenicity other than food allergens would be excluded from the proposed template, as its inclusion would require changes to CXC 36-1987.
106. CCFO29 also agreed that once the template was finalised, it would be uploaded to the Codex website as an information document.

Conclusion

107. CCFO29 agreed:
- i. to develop and use the standard template based on the draft (Appendix IV Part 2), taking into account the comments made at CCFO29, provided that these did not entail amendments to CXC 36-1987.
 - ii. that the revised template would be piloted in the next CL and may be further improved based on experience and comments received; and
 - iii. that the template would be published as an information document by the Codex Secretariat once finalised.

Final Conclusion

108. CCFO29 agreed to:
- i. forward the draft amendment to the LOAPC (Appendix II of CXC 36-1987) to CAC49 for adoption (Appendix IV Part 1);
 - ii. request the Codex Secretariat to issue a CL, including a draft standard template (Appendix IV Part 2), inviting interested Members and Observers to:
 - a. propose further amendments to Appendix 2: List of Acceptable Previous Cargoes of CXC 36-1987; and
 - b. provide further comments on the draft standard template for submission of proposals for amendments to the LOAPC.
 - iii. establish an EWG, led by Malaysia and working in English only, to:
 - a. consider proposals on new substances to be added to the LOAPC, provided that such proposals are supported by adequate and relevant information.
 - b. prioritise substances, if any, to be submitted to JECFA for evaluation.
 - c. consider proposals to remove substances from the list in light of new data.
 - d. review the draft template to be used as a standard template for proposals to amend the LOAPC; and
 - e. prepare a report for consideration by CCFO30 and to be submitted to the Codex Secretariat at least three months before CCFO30.
 - iv. to keep open the possibility of holding intersessional physical working groups (PWGs)/virtual working groups (VWGs) in advance of CCFO30 to advance the work.
109. CCFO29 also thanked JECFA for the continuous support in assessing the compounds and for expediting its

evaluation of non-food grade calcium lignosulfonate, scheduled for June 2026.

REVISION TO THE STANDARD FOR OLIVE OIL AND OLIVE POMACE OIL (CXS 33-1981) (Agenda item 8)⁹

UPDATE ON THE PROGRESS FOR THE COLLECTION OF SCIENTIFIC DATA AND INFORMATION IN RELATION TO PPP AND 1,2-DAG (Agenda item 8.1)¹⁰

110. Italy, as chair of the EWG, provided an overview on the progress made in collecting global data on the evolution of two parameters, pyropheophytin “a” (PPP) and 1,2-diglycerides (1,2-DAG), together with other quality parameters such as free fatty acids, fatty acid ethyl esters, peroxide value, and sensory attributes.
111. The EWG chair noted that, in line with its mandate, the EWG had developed a harmonized data-collection protocol and standardized templates, which were distributed through a CL. As a result, a substantial volume of data had been collected. Although not all submissions fully followed the protocol, several Members and an Observer had provided robust datasets or scientific literature contributions.
112. The EWG’s work had improved understanding of how PPP and 1,2-DAG values change over time and how factors such as temperature, storage, light and oxygen exposure can influence these quality parameters and interaction between these parameters throughout the storage of the oils. However, during consultations, divergence emerged among Members over whether the dataset was sufficient to proceed to the next stage of analysis. Following further informal consultations in the margins of CCFO29, Members had moved closer to consensus. The EWG chair noted that Members generally agreed the existing dataset was adequate to support beginning the analysis, while recognizing that some countries were still in the process of completing ongoing studies. To accommodate these, Members proposed to allow additional data submission from these studies before the data analysis by the expert panel began.
113. CCFO29 noted that the EWG chair (Italy) had prepared a CRD with a draft scope of the work to be requested from the FAO expert panel as the basis for discussion by the plenary.

Discussion

114. CCFO29 considered how to progress from the EWG’s data-gathering phase on the evolution of PPP and 1,2-DAG to a technical analysis of the data as, as envisaged at CCFO28, to be undertaken by an FAO-convened expert consultation, with a view to reaching conclusions by CCFO30, specifically focusing on whether the current dataset was sufficient to submit to FAO now, or whether data collection efforts should continue before data analysis. With regard to the analysis, some delegations indicated that these two parameters were impacted by other factors such as variety and climate, and these aspects needed to be taken into account in the analysis.
115. An Observer referred to the new studies conducted by their organisation on PPP and 1,2-DAG after CCFO28 and indicated that these had been made available to the EWG. These studies highlighted the technical complexities associated with these parameters and the challenges related to their consistent implementation.
116. Three potential pathways emerged from the discussions:

I. Proceed directly to data analysis

117. Some Members indicated that in their view the data collected by the EWG was sufficient to initiate the envisaged independent expert review and there was little value to be gained from extending the data collection phase and that any extension would undermine the timeline the Committee had agreed at CCFO28.
118. CCFO29 also considered how to address the data analysis phase. Several Members expressed that the EWG could carry out the data analysis since they had the expertise to do so and it would secure timely delivery. Other Members expressed that an analysis by FAO would be independent and transparent, and consistent with the decision of CCFO28.

II. Continue data collection before initiating data analysis

119. Other Members were of the view that the dataset was not yet sufficiently adequate to begin the data analysis phase. They noted that some Members were mid-stream in multi-season (up to 24-month) studies, and it was only fair to allow such studies to be completed given that the data collection protocol promoted 24-month studies. Initiating the data analysis too soon and without the complete data sets could bias results and diminish confidence and would undermine Members’ investments in these studies.

III. A hybrid approach

⁹ CX/FO 26/29/8

¹⁰ CX/FO 26/29/8 Add.1; CRD11 (Burundi, European Union, Kenya and United Republic of Tanzania); CRD25 (Ghana); CRD26 (El Salvador); CRD27 (East African Community (EAC)); CRD36 (EWG Chair (Italy))

120. Noting a divergence in the way forward, a third approach emerged with the goal of initiating the data analysis phase but leaving the door open for the inclusion of the final data sets from ongoing national studies. Such an approach would still follow that agreed at CCFO28 while at the same time acknowledging Members' realities and ensuring the process still captured data from ongoing studies in a transparent, and documented manner.
121. The FAO representative provided clarification on procedural and operational aspects of FAO's scientific advice work noting that the FAO scientific advice programme and Codex committees operated under separate processes and budgets. Thus, FAO could not begin technical work until a formal request was received and sufficient resources secured. The representative indicated that the standard procedure for an FAO expert consultation included issuing a call for experts and a call for data; convening an expert meeting and preparing and finalizing a scientific report. The representative clarified that the minimum time requirement for these steps was 2-3 years, regardless of when CCFO initiated the request. Importantly, once the call for data was issued, Members with ongoing studies would have an additional 6-8 months to submit new data, which could address concerns about incomplete datasets. FAO confirmed its commitment to support CCFO if requested but stressed that the work must follow FAO's transparency and procedural requirements, including the public call for data.
122. Members appreciated the clarification provided by FAO, although several expressed concern that the analysis may not be available by CCFO30 and proposed again in this context that an alternative approach would be for the EWG to undertake the analysis, with expertise drawn from Members. There were mixed views on this approach.
123. Concerns were also expressed that the FAO expert meeting would consider data directly submitted to FAO in addition to that collected by the EWG. It was noted that the call for data was a mandatory step in the FAO scientific advice programme contributing to transparency and independence. It was proposed that the call for data should use the same protocol as the one developed by the EWG, to which FAO confirmed that it was agreeable. This was considered as a feasible way forward that would facilitate submission of ongoing studies once completed, and in the same format of previously submitted data.
124. Based on the views expressed and the information from FAO, the chair proposed CCFO29 follow a kind of hybrid path which involved - clearly defining the scope of the analysis; transmitting the available data and information to FAO; and requesting FAO to use the same data collection template and criteria previously issued in CL 2024/36-FO in its call for data so that all new data submissions remained comparable with data collected by the EWG. Noting the concerns expressed about the timelines, it was proposed to request FAO to give priority to this request and report to CCFO30 (2028).
125. On this basis, CCFO29 agreed to request FAO to convene an expert consultation to review and analyse the information submitted to the EWG in response to CL 2024/36-FO, as well as any additional data related to the completion of ongoing studies on the evolution of PPP and 1,2-DAG in extra virgin olive oil (EVOO) within the timeframe established by FAO in the related call for data and provide advice on:
 - whether the observed values for PPP and 1,2-DAG are systematic, reproducible, and correlated to the other quality parameters listed in annex of CL 2024/36-FO;
 - whether PPP and 1,2-DAG could be used as quality parameters of EVOO along with other quality parameters including sensory in CXS 33-1981; and
 - the overall robustness and discriminatory power of PPP and 1,2-DAG as quality parameters.

Conclusion

126. CCFO29:
 - i. agreed that the data and information collected by the EWG was sufficient to initiate the request for analysis and requested FAO to undertake an analysis of the data and information as outlined in paragraph 125;
 - ii. agreed that additional data and information may continue to be collected and submitted directly to FAO in response to its call for data using the same data collection template and criteria previously issued in CL 2024/36-FO; and
 - iii. requested FAO to prioritise this work and to present the outcome at CCFO30.

DEVELOPMENT OF A FRAMEWORK FOR DATA COLLECTION ON SECTION 3.2.3 FOOTNOTE (C) (DECISION TREE) – FOLLOW UP ON THE CAC47 DIRECTIVE (Agenda item 8.2)¹¹

127. The Codex Secretariat introduced the item recalling the decision of CAC47 to launch a process to facilitate consideration of footnote (c) while also proceeding with the adoption of the revisions to CXS 33-1981. In order to develop a framework for data collection in an inclusive manner, taking into account the approach agreed by CAC47, the Codex Secretariat indicated that informal discussions had been convened with some Members and Observers as well as discussions at CCNE12. These discussions confirmed the commitment to provide data and that it was now for CCFO to consider: how to incorporate this activity into its work, what data should be collected; the mechanism by which the work could proceed; and a realistic timeline. Recalling that discussions at CCNE12 had indicated that data collection would likely take several years, the Codex Secretariat noted that CCFO may need to inform CCEXEC that the work on olive oil will likely extend beyond CCFO30.

Discussion

128. The Syrian Arab Republic, as the main proponent of the need to revisit the decision tree in footnote (c), reiterated the rationale for its proposal, explaining that the current sterol thresholds do not always reflect varietal and regional realities, resulting in potential misclassification of authentic oils, and indicated that this impacted national economies and farming communities. Regarding the data to be collected, the Syrian Arab Republic emphasized the need to include data on other quality parameters (acidity, peroxide value, organoleptic assessment, UV absorption) in addition to sterol related data. The extensive regional support for this work as indicated in the report of CCNE12, was also highlighted and it was proposed that an EWG be established by CCFO to guide the process of defining the data requirements and the protocol for their collection, facilitate submission from Members and Observers, and ensure the involvement of IOC and relevant regional bodies.
129. Members were supportive of the proposed way forward and the broadening of the data collection efforts to include other quality parameters and also indicated their willingness to contribute to this work.
130. IOC affirmed its readiness to collaborate closely, offering access to datasets, laboratories, literature, and scientific expertise, noting that it had already undertaken relevant studies and emphasized the importance of including a sufficient range of parameters and samples according to the IOC established protocol to ensure robust and meaningful analysis.

Conclusion

131. CCFO agreed to establish an EWG, chaired by the Syrian Arab Republic, and co-chaired by Australia, Saudi Arabia, Tunisia, and IOC, and working in English, to:
- i. define the types of data to be collected, including sterol composition and relevant quality parameters.
 - ii. identify analytical methods and sampling approaches, drawing on internationally recognised methods.
 - iii. propose a targeted timeline for data collection, taking into account the multi-season nature of olive production.
 - iv. prepare a template based on the above to be included in a CL to be issued by the Codex Secretariat to inform all Members and Observers of this initiative and request them to submit the required data; and
 - v. prepare a report to be submitted to the Codex Secretariat no later than three months in advance of CCFO30.
132. CCFO29 also agreed to inform CCEXEC that completion of the work on footnote (c) will require sufficient time for data collection and is not expected to be completed by CCFO30, hence CCFO30 will propose a revised timeline.

Other issues – Ordinary olive oil

133. The chairperson recalled the decision taken at CCFO27 regarding the category of ordinary virgin olive oil in CXS 33-1981. At that session, CCFO27 agreed to reconsider at CCFO30 the earlier decision of CCFO26 to remove the category, in response to requests from several Members, including developing countries, who sought additional time to examine the implications of the deletion, particularly given its potential impact on trade and the economic consequences for producers.

¹¹ CX/FO 26/29/8 Add.2; CRD12 (Burundi, European Union, Kenya, Türkiye, Uganda and United Republic of Tanzania); CRD13 (Syrian Arab Republic); CRD24 (Nigeria); CRD27 (East African Community (EAC)); CRD30 (Panama); CRD31 (Syrian Arab Republic); CRD33 (Bahrain, Egypt, Iraq, Jordan, Libya, Qatar, United Arab Emirates and Yemen)

134. Accordingly, CCFO27 agreed to temporarily retain the definition of ordinary virgin olive oil, along with its associated footnotes and related parameters, until CCFO30, to allow Members and Observers sufficient time to complete the necessary scientific work to be undertaken that would support decision-making.
135. The chairperson reminded Members of their commitment at CCFO27 to undertake the required work ahead of CCFO30. Delegates were strongly encouraged to come prepared to ensure that CCFO30 can deliberate efficiently and reach a final decision on the matter.

PROPOSALS FOR NEW WORK AND/OR REVISION TO EXISTING CODEX STANDARDS (Agenda item 9)¹²

136. The chairperson recalled the work management mechanism established by CCFO and that CCFO29 had established an IWG to review proposals for new work.
137. The United Kingdom, as chair of the IWG presented the report of its deliberations contained in CRD03, noting that the IWG concluded that all proposals received were satisfactory with some amendments / revisions to be considered and suitable for further consideration by the plenary.

DISCUSSION PAPER - REVISION TO THE STANDARD FOR NAMED VEGETABLE OILS (CXS 210-1999) TO INCLUDE SHEA BUTTER (Agenda item 9.1)¹³

138. The IWG chair indicated that the IWG recommended further discussion by CCFO on whether the new work would cover both unrefined and refined shea butter.
139. The Kingdom of the Netherlands, as the author, introduced the new work proposal and highlighted that although production volumes of shea butter remained lower compared to other major vegetable oils, shea butter played a critical role in local economies in Africa and had a growing demand in markets globally. The Kingdom of the Netherlands indicated that the development of international standards for shea butter would help to promote fair trade practices, improve the commodity's marketability, foster the development of local economies, and ensure its sustainable production.

Discussion

140. Delegations supported the proposal for new work, recognizing the economic and nutritional significance of shea butter. A Member indicated that it had developed national standards which could be useful for the elaboration of the revision to CXS 210-1999.
141. CCFO29 noted that it might be necessary to consider the inclusion of parameters contained in the *Regional standard for unrefined shea butter* (Africa) (CXS 325R-2017) that were not currently included in CXS 210-1999.
142. CCFO29 proceeded to consider the project document as presented in CX/FO 26/29/9-Add.1 and agreed to:
 - maintain the term “unrefined shea butter” instead of “virgin and/or crude shea butter”, noting that the commodity name should be considered during the elaboration of the revisions to CXS 210-1999 and should also take into account its appropriate trade name;
 - amend section H to provide general timelines for completion of work, based on CCFO sessions instead of calendar years noting that there could always be potential uncertainties in the scheduling of meetings; and
 - clarified that the technical information contained in Annex 1 of CX/FO 26/29/9-Add.1 would not be included in the project document to be forwarded for approval by CAC.
143. The Kingdom of the Netherlands expressed its appreciation to the African region for the strong interest, support and willingness to contribute to the work, and thanked Nigeria for accepting to chair the EWG, alongside the Kingdom of the Netherlands as co-chair.

Conclusion

144. CCFO29 agreed:
 - i. to submit the project document on the revision to CXS 210-1999 to include shea butter to CAC49 for approval (Appendix V).

¹² CX/FO 26/29/9; CRD03 (IWG Chair (UK))

¹³ CX/FO 26/29/9 Add.1; CRD03 (IWG Chair (UK)); CRD14 (Burundi, Egypt, European Union, India, Kenya, Uganda and United Republic of Tanzania); CRD24 (Nigeria); CRD25 (Ghana); CRD27 (East African Community (EAC)); CRD30 (Panama); CRD34 (Algeria)

- ii. to inform CCAFRICA of the proposed new work and that it may potentially be requested to review the need for CXS 325R-2017 once the work is completed.
- iii. to establish an EWG chaired by Nigeria, and co-chaired by Ghana, India, and the Kingdom of the Netherlands, working in English only, subject to the approval of the new work by CAC49, to prepare the proposed draft revisions for circulation for comments at Step 3 and consideration by CCFO30; and
- iv. that the report of the EWG should be made available at least three months before CCFO30.

DISCUSSION PAPER - REVISION TO THE STANDARD FOR NAMED VEGETABLE OILS (CXS 210-1999) TO INCLUDE VIRGIN COCONUT OIL (Agenda item 9.2)¹⁴

145. The IWG chair recalled that the IWG had reviewed the new work proposal and noted that the new work proposal did not demonstrate how virgin coconut oil (VCO) could be distinguished from coconut oil and it was unclear how this would be addressed in CXS 210-1999; and that the timelines had been amended to indicate that the work would be completed within two CCFO sessions. The IWG chair also recalled that during the IWG, Philippines had clarified that the new work proposal was to include VCO in CXS 210-1999 and not to amend provisions related to coconut oils.
146. The Philippines informed CCFO that following the IWG, the proposal had been revised as presented in CRD35 and included revisions in response to comments raised during the IWG. The Philippines highlighted that VCO was a growing commodity globally, but it was not adequately covered by CXS 210-1999, leading to challenges such as adulteration and inconsistent quality. Elaborating provisions for VCO such as essential quality characteristics and spectrometric measurements would help to address the adulteration of VCO and promote its trade internationally.

Discussion

147. CCFO29 noted the following comments in respect of the proposal:
- The key chemical and physical parameters needed to assess the quality and authenticity of VCO had not been adequately presented to explain how VCO could be differentiated from coconut oil.
 - The Appendix of CXS 210-1999 already provided sufficient flexibility to update identity and quality parameters without the need to create a separate category of named vegetable oil. In this context, it might be possible to propose amendments to parameters and/or provisions for coconut oils in CXS 210-1999 instead.
148. CCFO29 noted that there was mixed support for the new work, that CCFO30 already had a heavy agenda, and agreed that the discussion paper and project document needed further refinement before it could be considered again by CCFO.

Conclusion

149. CCFO29 agreed not to start new work on the proposed revision to CXS 210-1999 to include VCO due to identified gaps that would need further clarification and noted that the revised new work proposal could be submitted for consideration at a future CCFO session in reply to the CL requesting for new work proposals that would be issued in advance of CCFO.

DISCUSSION PAPER - REVISION TO THE STANDARD FOR NAMED VEGETABLE OILS (CXS 210-1999) TO ADJUST STEARIC ACID CONTENT FOR HIGH OLEIC ACID SUNFLOWER SEED OIL (Agenda item 9.3)¹⁵

150. The IWG chair recalled that the IWG had acknowledged that:
- the data presented originated only from one Member, but it showed variations in stearic acid levels in high oleic acid sunflower seed oils across different producing countries;
 - the values of oleic and linoleic acid content in CXS 210-1999 may need to be adjusted in the future; and
 - there was precedent to initiate new work on the basis of data and evidence originating from one Member.
151. Nevertheless, the IWG indicated that additional evidence, experiences and data from other Members would be useful to establish a broader evidence base to reflect the global production realities of this commodity. While the new work proposal did not indicate a start date, the IWG agreed that the work could be completed

¹⁴ CX/FO 26/29/9 Add.2 Rev.1; CRD03 (IWG chair (United Kingdom)); CRD15 (Burundi, Egypt, European Union, India, Kenya, Uganda and United Republic of Tanzania); CRD19 (Philippines); CRD24 (Nigeria); CRD25 (Ghana); CRD27 (East African Community (EAC)); CRD30 (Panama); CRD35 (Philippines)

¹⁵ CX/FO 26/29/9 Add.3; CRD03 (IWG chair (United Kingdom)); CRD16 (Burundi, Egypt, European Union, India, Kenya, Türkiye, Uganda and United Republic of Tanzania); CRD24 (Nigeria); CRD25 (Ghana); CRD26 (El Salvador); CRD27 (East African Community (EAC)); CRD29 (Senegal); CRD30 (Panama); CRD37 (Iran (Islamic republic of))

within two sessions of CCFO should it be approved.

152. The IWG chair further noted that the proposal only involved a change to a single value in CXS 210-1999 and invited CCFO to consider how the new work could be progressed in a more efficient manner.
153. The Islamic Republic of Iran, as author of the new work proposal, informed CCFO that following the IWG, the proposal had been revised as presented in CRD37, and further indicated that the data presented supported a lower minimum level of stearic acid content in high oleic acid sunflower seed oil of 2.1% instead of the current 2.9% in CXS 210-1999. This would ensure that CXS 210-1999 could accommodate all varieties of high oleic acid sunflower seed oil worldwide.

Discussion

154. While there was general support for the new work, CCFO29 agreed that more data could be collected during the course of the work to support the elaboration of a suitable minimum level of stearic acid content.
155. Noting broad support for the new work proposal, CCFO29 considered how work might progress efficiently as recommended by the IWG Chair (paragraph 152). A suggestion was offered whereby:
 - (a) CCFO establishes a working group consisting of the Islamic Republic of Iran and other interested Members and Observers to specify the information that would need to be gathered and to develop a suitable template for the collection of such information;
 - (b) the Codex Secretariat would issue a CL to invite all Members and Observers to provide views on the proposed lower value for stearic acid content and related relevant data and information according to the template specified by the working group; and
 - (c) the responses would be forwarded to the working group for analysis with a view to recommend a suitable minimum stearic content level for consideration by CCFO30.
156. The chairperson invited CCFO29 to consider this suggestion in the context of ensuring good work management, highlighting that many EWGs have been established by CCFO29. The Codex Secretariat added that EWGs were not the only route to progress new work, and since the new work proposal already contained a suggestion for the minimum level of stearic acid content, Members and Observers would have the opportunity to support this minimum level, or to propose an alternative value supported by relevant data by responding to the CL.
157. CCFO29 agreed with the approach to progress the new work, as suggested in paragraph 155, and noted that the CL would focus only on the lower value for the range of stearic acid content and the collection of data relevant to this provision.
158. CCFO29 agreed with the project document as presented in CRD37, noting that the proposed range of stearic acid content in Section 3 should be retained as this would provide a starting point for the elaboration of a minimum stearic acid content in high oleic acid sunflower seed oil in CXS 210-1999.

Conclusion

159. CCFO29 agreed:
 - i. to submit the project document on the revision to CXS 210-1999 to adjust stearic acid content for high oleic acid sunflower seed oil to CAC49 for approval (Appendix VI); and
 - ii. subject to the approval of the new work by CAC49, to:
 - a. request the Codex Secretariat to issue a CL to collect views on the proposed lower value for stearic acid content and data and information to support this or another lower minimum value on stearic acid in high oleic acid sunflower seed oil; and
 - b. request the Codex Secretariat to forward the responses to the CL to the Islamic Republic of Iran and Russian Federation for analysis, with a view to propose a suitable lower limit of stearic acid for consideration by CCFO30.

DISCUSSION PAPER – DEVELOPMENT OF A STANDARD FOR SEA BUCKTHORN OIL (Agenda item 9.4)¹⁶

160. The IWG chair recalled that the IWG considered whether it might be more appropriate to revise CXS 210-1999 to include sea buckthorn oil instead of developing a standalone standard for sea buckthorn oil. The IWG noted that a group standard might be warranted in the future to address possible new and emerging oils of a similar nature. Due to its origin and high value as an ingredient, Mongolia, as the co-author of the new work proposal,

¹⁶ CX/FO 26/29/9 Add.4; CRD03 (IWG chair (United Kingdom)); CRD17 (Burundi, European Union, India, Kenya and United Republic of Tanzania); CRD27 (East African Community (EAC)); CRD30 (Panama)

indicated its preference at the IWG that a standalone standard be developed for sea buckthorn oil. The IWG found that data on the volume of production, consumption and trade were lacking in the new work proposal but challenges with identifying harmonised system (HS) commodity codes for sea buckthorn oil meant that such data was not available at this time. While the new work proposal did not indicate a start date, the IWG agreed that the work could be completed within two sessions of CCFO should it be approved.

161. Mongolia, speaking also on behalf of China as the co-author of the proposal, introduced the new work proposal, highlighting that sea buckthorn oil had a history of human consumption and consisted of two clearly differentiated products, “sea buckthorn pulp oil” and “sea buckthorn seed oil”. Mongolia explained that the international trade of this commodity has been conducted under broad and non-specific HS codes which could make it challenging to identify and monitor its trade patterns. The lack of internationally agreed definitions and specifications could lead to an increased risk of adulteration through the mixing of sea buckthorn oil with lower value vegetable oils, which could lower consumer confidence and undermine the fair and transparent trade of this product. Mongolia indicated that developing a Codex standard for sea buckthorn oil could not only protect consumer health and ensure fair practices in food trade, but also provide support for rural livelihoods, poverty reduction, as well as the responsible and sustainable use of natural resources during its production.

Discussion

162. Members indicated general support for the new work as it would enable the essential composition, quality and safety parameters of sea buckthorn oil to be harmonized internationally, noting that sea buckthorn oil was produced in significant amounts by some Members.
163. CCFO29 noted the following clarifications:
- Sea buckthorn oil did not need to be evaluated by JECFA as it was not a novel substance, had a documented history of consumption in several regions, and was already marketed in multiple countries.
 - The proposed new work would only apply to sea buckthorn oils used in foods and food supplements where those were regulated as foods.
164. CCFO29 agreed that it was more appropriate to revise CXS 210-1999 to include sea buckthorn oil instead of developing a standalone standard for sea buckthorn oil, as CXS 210-1999 could cover vegetable oils that were not exclusively sourced from seeds.
165. CCFO29 agreed to amend the project document to indicate that instead of developing a standalone standard for sea buckthorn oil, the new work would focus on revisions to CXS 210-1999 to include sea buckthorn oil. The project document was also amended to clarify that CXS 210-1999 would be revised to include sea buckthorn pulp oil and sea buckthorn seed oil. In addition, amendments were made to the following sections in the project document.

Section 1 – Purpose and scope of the standard

166. CCFO29 agreed to:
- delete information that the oil was rich in omega-7 fatty acids and high in omega-3 and omega-6 as these details were not necessary to define the purpose and scope of the standard; and
 - add a sentence to indicate that “the standard to be included only applies to sea buckthorn oils (pulp and seed oil) used in foods and food supplements where those were regulated as foods”.

Section 4(a) - Volume of production and consumption in individual countries and volume and pattern of trade between countries

167. CCFO29 noted the clarification that, in Tables 1 and 2, the term “general seabuckthorn oil” refers to sea buckthorn oil derived from both seed and pulp. It was further clarified that the specific origin (seed or pulp) of oils classified under this term cannot be distinguished due to the lack of a dedicated HS code.

Section 4(h) - Work already undertaken by other international organizations in this field

168. CCFO29 made the following deletions to the table entitled “Sea buckthorn oil standards across countries”:
- deletion of the word ‘draft’ as China has established a national standard for sea buckthorn seed oil; and
 - deletion of the entries for Germany and Poland as sea buckthorn oil was already found in these markets and were not considered to be a novel food.

Conclusion

169. CCFO29 agreed:

- i. to submit the project document on the revision of CXS 210-1999 to include sea buckthorn pulp oil and sea buckthorn seed oil to CAC49 for approval (Appendix VII);
- ii. to establish an EWG chaired by Mongolia and co-chaired by China, working in English only, subject to the approval of the new work by CAC49, to prepare the proposed draft revisions for circulation for comments at Step 3 and consideration by CCFO30; and
- iii. that the report of the EWG should be made available at least three months before CCFO30.

Other conclusions

170. CCFO29 agreed to keep open the possibility of holding intersessional PWG(s)/VWG(s) in advance of CCFO30 to discuss the recommendations of the EWGs, that would be established subject to the approval of new work proposals by CAC49.

OTHER BUSINESS (Agenda item 10)

Discussion paper - Revision to the *Standard for named vegetable oils* (CXS 210-1999): Changes to adding new definitions (Egypt)¹⁷

171. Egypt introduced the item and informed CCFO29 that it was proposing new work to revise CXS 210-1999 to include new definitions for crude and refined oils. The discussion paper and project document contained in CRD18 had been revised and the updated discussion paper and project document were contained in CRD32.

Discussion

172. The chairperson recalled that under the new work management mechanism agreed by CCFO26 (2019), new work proposals would need to be submitted in reply to the CL that was issued in advance of CCFO and be considered by the IWG on new work proposals.

173. Due to the lack of time and in line with the new work management mechanism agreed by CCFO26, CCFO29 agreed to defer discussions to CCFO30.

DATE AND PLACE OF THE NEXT SESSION (Agenda item 11)

174. CCFO29 was informed that the 30th Session of CCFO was scheduled to be held in Malaysia tentatively from 20-24 March 2028, subject to confirmation by the host government in consultation with the Codex Secretariat.

¹⁷ CRD18 and CRD32 (Egypt)

APPENDIX I

**LIST OF PARTICIPANTS
LISTE DES PARTICIPANTS
LISTA DE PARTICIPANTES**

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Ministry of Health Malaysia
W.P Putrajaya

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APPENDIX II**METHOD FOR THE DETERMINATION OF GAMMA ORYZANOL IN RICE BRAN OIL**

(for endorsement by CCMAS and transfer to the
Recommended methods of analysis and sampling (CXS 234-1999))

Commodity	Provision	Method	Principle	Type
Crude rice bran oil	Gamma oryzanol	Described in Appendix V of CXS 210-1999**	Absorption in ultraviolet	III*

* Originally Type IV

** To be revised when incorporated into CXS 234-1999.

APPENDIX III

PART 1: PROPOSED DRAFT STANDARD FOR MICROBIAL OMEGA-3 OILS

(For adoption at Step 5)

1. SCOPE

This Standard applies to the microbial omega-3 oils described in Section 2 that are presented in a state for human consumption. For the purpose of this Standard, the term microbial omega-3 oils refers to oils derived from microorganisms, including microalgae, and only applies to microbial oils used in food and in food supplements where those are regulated as foods¹. This standard does not apply to crude oils.

2. DESCRIPTION

Microbial omega-3 oils mean oils intended for human consumption derived from microorganisms, including microalgae, that contain a substantial level of long-chain omega-3 polyunsaturated fatty acids (omega-3 LCPUFA), including at least 15% w/w fatty acids as sum of C20:5 (n-3) eicosapentaenoic acid (EPA) and C22:6 (n-3) docosahexaenoic acid (DHA). The EPA and DHA thresholds specified in this standard apply to the microbial omega-3 oil ingredient as described herein and do not apply to finished food products or food supplements containing these oils.

Processes to obtain microbial omega-3 oils for human consumption may involve, but are not limited to, photoautotrophic or heterotrophic growth, separation of the biomass, extraction of crude oil from raw material and refining of that crude oil. Microbial omega-3 oils may also be subjected to additional processing steps, e.g. solvent extraction, enzymatic extraction, saponification, re-esterification, and trans-esterification. High EPA and/or DHA concentrations can be achieved through strain selection and optimization of growth conditions, and/or genetic modification². Microbial omega-3 oils may also be concentrated to adjust their LCPUFA content via physical, chemical or biological processes.

Microbial omega-3 oils can be composed of glycerides of fatty acids (primarily triglycerides, although some oils may have high levels of phospholipids and glycolipids) and low levels of non-saponifiable lipids, e.g., sterols, carotenoids.

2.1 Named microbial omega-3 oils are derived from specific raw materials which are characteristic of the major microbial taxon from which the oil is extracted without altering the chemical form of the lipids. The microbial source of the omega-3 oil must have a history of safe use as a production microorganism for omega-3 oils or be supported as a new source by sufficient scientific data on safety of the organism for its intended use for authorization by the country of retail sale.

2.1.1 *Cryptocodinium* oil is derived from *Cryptocodinium* microalgal species such as *Cryptocodinium cohnii* of the genus *Cryptocodinium* (family *Cryptocodiniaceae*) and is rich in DHA.

2.1.2 *Schizochytrium* oil is derived from microalgal species that are or have historically been classified under the genus *Schizochytrium* (family *Thraustochytriaceae*). These include species currently organized into the genus of *Aurantiochytrium*, *Hondae*, *Oblongichytrium*, and *Thraustochytrium*. The oil is characterized by high content of DHA (DHA oil) or by high contents of both EPA and DHA (EPA & DHA oil).

2.1.3 *Ulkenia* oil is derived from the genus *Ulkenia* (family *Thraustochytriaceae*) and is rich in DHA.

2.2 Concentrated microbial omega-3 oils are derived from microbial omega-3 oils described in Section 2.1 which have been subjected to processes that may involve, but are not limited to hydrolysis, fractionation, winterization, molecular distillation, supercritical fluid extraction and/or re-esterification, and/or trans-esterification to increase the concentration of specific omega-3 fatty acids. Concentrated microbial omega-3 oils are primarily composed of fatty acid ethyl esters and/or re-esterified and trans-esterified triglycerides.

2.2.1 Concentrated microbial omega-3 oils contain at least 35 % w/w fatty acids as a sum of EPA and DHA.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Gas-Liquid Chromatography (GLC) ranges of EPA and DHA

Samples of microbial omega-3 oils described in Section 2.1 shall fall within the appropriate ranges specified in Table 1 (expressed as percentages of total weight, w/w).

¹ Microbial omega-3 oils can be considered as novel food in some countries, and it may be necessary to consider their authorization of use as foods for human consumption by the country of retail sale.

² Microbial omega-3 oils derived from genetically modified microorganisms can require pre-market oversight in some countries.

3.2 Quality factors

The colour, odour and taste of each product shall be characteristic of the designated product. It shall be free from foreign and rancid odour and taste.

3.2.1 Microbial omega-3 oils and concentrated microbial omega-3 oils (Sections 2.1 and 2.2) shall comply with the quality parameters specified in Table 2.

4. FOOD ADDITIVES

Antioxidants, sequestrants, and emulsifiers used in accordance with Tables 1 and 2 of the *General standard for food additives* (CXS 192-1995), in food category [(to be determined)] are acceptable for use in foods conforming to this Standard.

The flavorings used in products covered by this Standard should comply with the *Guidelines for the use of flavourings* (CXG 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* (CXS 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.

It is recommended that the products covered by the provisions of the Standard be stored and transported in accordance with the *Code of practice for the storage and transport of edible fats and oils in bulk* (CXC 36-1987).

6. 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* (CXC 1-1969), and other relevant Codex Alimentarius texts such as codes of hygienic practice and codes of practice.

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* (CXG 21-1997).

7. LABELLING

The requirements of the *General standard for the labelling of prepackaged foods* (CXS 1-1985), *Guidelines on nutrition labelling* (CXG 2-1985), *General guidelines on claims* (CXG 1-1979) and *Guidelines for use of nutrition and health claims* (CXG 23-1997) apply to this standard. In addition, the following specific provisions apply.

7.1 Name of the food

The name of the microbial omega-3 oil shall conform to the descriptions provided in Section 2 of this Standard and at a minimum, shall include the name of the genus (Sections 2.1.1 to 2.1.3), e.g. Algal oil (*Schizochytrium* sp.).

7.2 Labelling on non-retail containers

The labelling of non-retail containers should be in accordance with the *General standard for the labelling of non-retail containers of foods* (CXS 346-2021).

7.3 Other labelling requirements

The declaration of EPA and DHA content, and other labelling requirements specified in the country of authorisation shall be provided.

8. METHODS OF ANALYSIS³ AND SAMPLING

Provision	Method	Principle	Type
Fatty acid composition	ISO 12966-2 and ISO 12966-4	Preparation of FAME* and determination by GC-FID	III
Fatty acid composition	AOCS Ce 2-66 and AOCS Ce 1i-07	Preparation of FAME and determination by GC-FID	II
EPA and DHA	Ph.Eur. 2.4.29 / USP 401	GC-FID	II
EPA and DHA	AOCS Ce 1i-07	GC-FID	III
Peroxide Value	AOCS Cd 8b-90 / ISO 3960 / NMKL 158 / European Pharmacopoeia 2.5.5	Titrimetry (colorimetric)	I
Anisidine Value	European Pharmacopoeia 2.5.36 / AOCS Cd 18-90/ ISO 6885	Spectrophotometry	I
Acid Value	AOCS Ca 5a-40 / AOCS Cd 3d-63 / ISO 660 / NMKL 38 / USP 401, Method 1	Titrimetry	I
Unsaponifiable matter	ISO 3596 / AOCS Ca 6b-53	Gravimetry and Titrimetry	I
Moisture and volatile matter	ISO 662	Gravimetry	I
Moisture and volatile matter	AOCS Ca 2c-25	Gravimetry	I
Moisture	ISO 8534	Titrimetry	II
Moisture	AOCS Ca 2e-84	Titrimetry	II

*FAME = Fatty Acid Methyl Esters

³ The methods of analysis will be included in CXS 234-1999 after endorsement by CCMAS and the following text will replace the Table.

***For checking the compliance with this standard, the methods of analysis and sampling contained in the *Recommended methods of analysis and sampling (CXS 234-1999)* relevant to the provisions in this standard, shall be used.**

Table 1: EPA and DHA composition of named microbial omega-3 oils as determined by gas liquid chromatography from authentic samples (expressed as percentage of total weight, g/100g oil) (see Section 3.1 of the Standard)

Fatty acids	<i>Crypthecodinium</i> (section 2.1.1)	<i>Schizochytrium</i> (section 2.1.2)		<i>Ulkenia</i> (section 2.1.3)
		DHA Oil	EPA & DHA Oil	
C20:5 (n-3) Eicosapentaenoic acid (EPA)	< 1.0	≤ 7.0	≥ 10.0	< 1.0
C22:6 (n-3) Docosahexaenoic acid (DHA)	≥ 30.0	≥ 30.0	≥ 5.0	≥ 32

Table 2: Quality factors of named microbial omega-3 oils and their concentrate (see Section 3.2 of the Standard).

Parameter	<i>Crypthecodinium</i>	<i>Schizochytrium</i> *	<i>Ulkenia</i>
Peroxide value (milliequivalent of active oxygen/kg oil)	≤ 5	≤ 5	≤ 5
Anisidine value	≤ [20][10]	≤ [20][10]	NA
Total oxidation number (TOTOX) ⁴	≤ [26][20]	≤ [26][20]	NA
Acid value (mg KOH/g oil)	≤ [3.0][0.5]	≤ [3.0][0.5]	≤ 0.5
Unsaponifiable matter (%)	≤ 4.5	≤ 4.5	≤ 4.5
Moisture and volatile matter (%)	NA	NA	≤ 0.05
Moisture (%)	≤ 0.1	≤ 0.1	NA

*Includes DHA oil and EPA & DHA oil types. NA = not applicable

⁴ Total oxidation number (TOTOX) = 2 x Peroxide value + 1 x Anisidine value

Explanatory note: Oxidation of LCPUFA-rich 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 means "total oxidation of oil". [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, to avoid both of these oxidation parameters being present at maximum levels.]

APPENDIX

OTHER QUALITY AND COMPOSITION FACTORS

These quality and composition factors are supplementary information to the essential composition and quality factors of the standard. A product, which meets the essential quality and composition factors but does not meet these supplementary factors, may still conform to the standard.

1. COMPOSITION CHARACTERISTICS

Total fatty acid composition by GLC (expressed as percentages of total fatty acids, w/w) are given in Table 3.

[Table 3: Fatty acid composition of named microbial omega-3 oils as determined by gas liquid chromatography from authentic samples (expressed as percentages of total fatty acids, i.e., area %) (see Section 3.1 of the Standard)]

Fatty acids	<i>Crypthecodinium</i>	<i>Schizochytrium</i>		<i>Ulkenia</i>
		DHA Oil	EPA & DHA Oil	
C12:0 lauric acid	NA	ND – 1.5	NA	NA
C14:0 myristic acid	9.0 – 18.0	ND – 14.0	ND – 4.0	1.5 – 4.5
C15:0 pentadecanoic acid	NA	ND – 2.0	0.1 – 0.4	1.2 – 1.6
C16:0 palmitic acid	8.0 – 16.0	9.0 – 49.0	6.0 – 25.0	32.2 – 33.5
C16:1 n-7 palmitoleic acid	1.0 – 3.0	ND – 8.5	NA	NA
C16:3 hexadecatrienoic acid	NA	ND – 0.4	NA	NA
C17:0 heptadecanoic acid	NA	ND – 1.5	NA	0.4 – 0.5
C17:1 (isomer not specified)	NA	ND – 0.2	NA	NA
C18:0 stearic acid	0.3 – 1.0	ND – 2.0	1.0 – 2.5	0.5 – 2.0
C18:1 (n-7) (isomer not specified)	ND – 0.3	ND – 10.0	NA	NA
C18:1 (n-9) oleic acid	10.0 – 25.0	ND – 31.0	ND – 36.0	NA
C18:2 (n-6) linoleic acid	ND – 2.5	ND – 7.0	ND – 3.0	NA
C18:3 (n-3) alpha-linolenic acid	NA	ND – 1.0	NA	NA
C18:3 (n-6) γ-linolenic acid	ND – 1.0	ND - 0.5	NA	NA
C18:4 (n-3) stearidonic acid	NA	ND – 1.0	NA	NA
C20:0 arachidic acid	ND – 0.4	ND – 1.0	NA	NA
C20:1 eicosenoic acid (isomer not specified)	NA	NA	NA	NA
C20:1 (n-9) eicosenoic acid	ND – 0.2	ND – 0.2	NA	NA
C20:2 (n-6) eicosadienoic acid	NA	ND – 0.2	NA	NA
C20:3 (n-6) eicosatrienoic acid	ND – 0.1	ND – 3.0	NA	NA
C20:4 (n-6) arachidonic acid	NA	ND – 3.5	ND – 3.5	0.9 – 1.2
C20:4 (n-3) eicosatetraenoic acid	NA	0.4 – 2.0	NA	0.7 – 0.8
C20:5 (n-3) eicosapentaenoic acid	ND – 0.3	ND – 13.0	10.0 – 43.0	ND – 0.5
C22:0 behenic acid	NA	ND – 0.5	NA	NA
C22:1 (n-9) erucic acid	NA	NA	NA	NA
C22:1 (n-11) cetoleic acid	NA	ND – 1.5	NA	NA
C22:2 (n-6) docosadienoic acid	NA	ND – 0.6	NA	NA
C22:4 (n-6) docosatetraenoic acid	NA	ND – 0.2	NA	NA

Fatty acids	<i>Crypthecodinium</i>	<i>Schizochytrium</i>		<i>Ulkenia</i>
		DHA Oil	EPA & DHA Oil	
C22:5 (n-3) docosapentaenoic acid	ND – 1.0	ND – 2.5	ND – 18.0	0.2 – 1.5
C22:5 (n-6) docosapentaenoic acid	ND – 1.0	ND – 25.0	0.5 – 13.0	8.0 – 14.0
C22:6 (n-3) docosahexaenoic acid	30.0 – 55.0	35.0 – 70.0	15.0 – 52.0	40.0 – 55.0
C24:0 lignoceric acid	NA	ND – 0.2	NA	NA
C24:1 (n-9) nervonic acid	NA	ND – 0.1	NA	NA

ND = non-detect, defined as $\leq 0.05\%$

NA = not applicable or available

Note to Table 3. The purpose of Table 3 is only for use in confirming the authenticity of the respective oil types, based on the indicated ranges of diagnostic fatty acids and are not intended as trade specifications. Microbial omega-3 oils are traded based on the accurately measured content of DHA and /or EPA, not for their fatty acid profiles. The ranges for EPA and DHA in Table 3 may vary from the requirements for minimum and maximum levels in g/100 g given in Table 1, which may be partly due to the difference in method of analysis and unit of quantitation.]

**PART 2: FOOD ADDITIVE PROVISIONS IN THE
PROPOSED DRAFT STANDARD FOR MICROBIAL OMEGA-3 OILS**

(For endorsement by CCFA, subject to the creation of a new food category for microbial omega-3 oils)

INS No.	Name of Additive	Maximum Level
1. Antioxidants		
300	Ascorbic Acid, L-	GMP
304, 305	Ascorbyl Esters	2500 mg/kg
320	Butylated Hydroxyanisole	200 mg/kg
321	Butylated Hydroxytoluene	200 mg/kg
330	Citric Acid	GMP
322(i)	Lecithin	GMP
310	Propyl Gallate	200 mg/kg
392	Rosemary extract*	4000 mg/kg
319	Tertiary Butylhydroquinone (TBHQ)	200 mg/kg
307a, 307b, 307c	Tocopherols	6000 mg/kg
2. Emulsifiers		
322(i)	Lecithin	GMP
3. Sequestrants		
300	Ascorbic Acid, L-	GMP
330	Citric Acid	GMP

* The 100th meeting (10-19 June 2025), of the Joint FAO/WHO Expert Committee on Food Additives (JECFA) established an acceptable daily intake (ADI) for rosemary extract (INS 392) of 0–0.6 mg/kg bw per day (expressed as carnosic acid and carnosol).

Technological justifications

Antioxidants are used in microbial omega-3 oils in the prevention or delay of oxidation in lipids containing unsaturated fatty acids, such as in microbial omega-3 oils.

Emulsifiers are used to reduce crystallization and cloudiness of oils prone to forming precipitates at colder temperatures.

Sequestrants are used in microbial omega-3 oils to bind trace metals that can accelerate oxidation. They do not act directly as antioxidants but instead support antioxidant activity by removing catalysts that accelerate oxidation processes.

PART 3: PROPOSED DRAFT REVISIONS TO THE FOOD CATEGORIES IN THE GSFA TO INCLUDE MICROBIAL OILS

(For CCFA's information and action)

Note: Proposed amendments are indicated in **bold** and underlined.

02.0 Fats and oils, and fat emulsions: Includes all fat-based products that are derived from vegetable, animal, **microbial** or marine sources, or their mixtures.

02.1 Fats and oils essentially free from water: Edible fats and oils are foods composed mainly of triglycerides of fatty acids from vegetable, animal, **microbial**, or marine sources

02.1.4 Microbial oils and fats: Edible fats and oils obtained from oleaginous microorganisms, including but not limited to microalgae, protists, fungi, or yeast, and not derived from plants or animals. These oils and fats are intended for use as edible fats and oils or as ingredients in foods. This category also encompasses concentrated forms of specific fatty acids.

APPENDIX IV

**PART 1: DRAFT REVISION TO THE CODE OF PRACTICE FOR THE STORAGE AND TRANSPORT OF
EDIBLE FATS AND OILS IN BULK (CXC 36-1987)**

(for adoption)

Proposed changes to relevant provisions are indicated in **bold** and underline.

APPENDIX 2 - Codex Alimentarius List of Acceptable Previous Cargoes**List of acceptable previous cargoes**

Substance (synonyms)	CAS number
Mineral oil, high viscosity (<u>highly refined food-grade</u>)	8012-95-1
Mineral oil, medium viscosity (<u>highly refined food-grade</u>)	

PART 2: DRAFT STANDARD MATRIX TEMPLATE FOR NEW PROPOSED SUBSTANCES

(For information and update)

Note: A revised version will be developed to take into account comments made at CCFO29 (see paragraph 103).

EVALUATION OF SUBSTANCES AS ACCEPTABLE PREVIOUS CARGOES

PROPONENT (COUNTRY/OBSERVER):[illegible]

APPENDIX V

PROJECT DOCUMENT

PROPOSED REVISION TO THE STANDARD FOR NAMED VEGETABLE OILS (CXS 210-1999) TO INCLUDE SHEA BUTTER (REFINED AND UNREFINED)

(For approval)

A. PURPOSE AND SCOPE OF THE STANDARD

The purpose and scope of this new work is to revise the *Standard for named vegetable oils* (CXS 210-1999) to include shea butter derived from the nuts of the shea tree (*Vitellaria paradoxa*, formerly *Butyrospermum parkii*). The work will include defining the requirements for both refined and unrefined shea butter.

Currently, there is an existing *Regional standard for unrefined shea butter* (Africa) (CXS 325R-2017) whose scope is limited to unrefined product and it is considered as a "regional agreement" which has limited influence on other regions. A revision to CXS 210-1999 to include shea butter would enable Codex Member countries and the food industry to appropriately characterize, name, and market shea butter, into both refined and unrefined categories, globally.

The current regional standard CXS 325R-2017 specifies the quality requirements for unrefined shea butter, however the use of refined shea butter in the food industry is on the rise and therefore needs further specification. The refining process removes the scent and color of the product which makes the fat more suitable for food applications where a bland taste and clear color is required.

B. RELEVANCE AND TIMELINESS

The global shea butter market size is valued at USD 3.1 billion in 2025¹ with projections to reach USD 6.8 billion by 2035, demonstrating a compound annual growth rate (CAGR) of 8.2% from 2025 to 2035². In terms of grade, the shea butter market is dominated by refined shea butter.³ Increasing demand for cocoa butter substitutes, the rising consumption of cocoa and bakery products, and the growth of vegan movement, are expected to drive the growth of the market for shea over the forecast period 2025-2035.

The lack of an international standard of refined shea butter makes the introduction of refined shea butter in a broad range of food products difficult. Especially in new markets in Asia and South America, a fat, if not listed in the *Standard for named vegetable oils* (CXS 210-1999), is perceived as not acceptable or of lower value.

A Codex standard on shea butter will facilitate the trade of this commodity worldwide directly from Africa through supporting increased quality and trade as well as promote investment in refining facilities in Africa which was previously undertaken in Europe.

C. MAIN ASPECTS TO BE COVERED

The main aspect to be covered will include:

a) Section 2.1 Product definition for refined shea butter and unrefined shea butter⁴:

Refined shea butter is vegetable fat derived from the kernels of the shea nut (nut kernels) from the tree scientifically known as *Vitellaria paradoxa*, C.F. Gaertn (synonyms: *Butyrospermum paradoxum*, *Butyrospermum parkii*), from the *Sapotaceae* family. Shea butter is obtained from the kernel of the shea nut fruit. The shea nut fruits undergo several processes i.e. de-pulping (by fermentation or manual peeling), boiling, drying, de-shelling, winnowing and sorting to obtain the kernels. Extraction of shea butter from the kernels can then occur mechanically (traditional with stones or by mechanical press) and/or chemically, via the use of hexane as extraction solvent. The shea butter prepared by the chemical method, must be refined before it is consumed. Mechanically extracted shea butter is often used in its unrefined state, but it can also be refined depending on the intended application. The refining process involves steps such as bleaching and deodorization to remove its natural color, odor, and impurities. This results in a more neutral, consistent product suitable for use in food, cosmetics and pharmaceuticals.⁵

¹ <https://www.futuremarketinsights.com/reports/shea-butter-market>

² [Shea Butter Market Size & Outlook, 2030](#)

³ [Raw and Unrefined - Shea butter market outlook](#)

⁴ fao.org/fao-who-codexalimentarius/sh-proxy/tr/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FStandards%252FCXS%2B325R-2017%252FCXS_325Re.pdf

⁵ <https://www.sciencedirect.com/topics/veterinary-science-and-veterinary-medicine/shea-butter>

Unrefined shea butter is the oleaginous material obtained from the nut kernel of the *Vitellaria paradoxa*, C.F. Gaertn (synonyms: *Butyrospermum paradoxum*, *Butyrospermum parkii*), from the *Sapotaceae* family by manual or mechanical methods. It is obtained through a thermal process or cold pressed. It can be purified by washing with water, settling, filtering, and centrifuging.

- b) Quality and compositional characteristics
- c) Contaminants and related food safety issues
- d) Organoleptic characteristics
- e) Purity criteria
- f) Food additives
- g) Labelling
- h) Analytical methods

Shea butter is a cherished natural fat used in food, skincare, but its characteristics can vary significantly depending on where it's sourced. The two main types—West African (Paradoxa) and East African (Nilotica) shea butter—come from different subspecies of the shea tree and offer distinct textures, scents, benefits, and even culinary uses. Both Latin names should be included in the standard.

D. RELEVANCE TO THE CODEX STRATEGIC OBJECTIVES

According to the Codex Strategic Plan (2026-2031) the proposed revision fits with the strategic goals:

Strategic Goal 1: Respond to Members' needs for protecting the health of consumers and ensuring fair practices in the food trade in an evolving global landscape by developing science-based standards and related texts

- Contribute to protecting consumer health and promote fair practices in the food trade by setting international, science-based food safety and quality standards.
- Food system transformation: growing role of shea butter in international food systems highlights the urgency of regulatory clarity. Including it in Codex standards addresses a critical and emerging issue, enabling global markets to respond effectively to rising demand and trade dynamics. This revision is a proactive step toward ensuring fair practices and supporting market expansion.
- Codex standards are built on rigorous scientific principles and risk analysis. Defining quality criteria and validated analytical methods for shea butter ensures that products meet safety standards and maintain consistency, safeguarding consumers across diverse markets.

Strategic Goal 2: Enhance Codex work management systems and practices that support the effective and efficient development of standards and related texts

- We propose a proactive, open and transparent process for participation of all members.
- This proposed revision fosters broader participation by engaging African nations and other stakeholders in the standard-setting process. It empowers producers by involving them directly in shaping the quality benchmarks for both refined and unrefined shea butter, ensuring that their voices and expertise are reflected in global standards.

Strategic Goal 3: Strengthen relationships with relevant international organizations, promoting a coordinated approach to address global challenges

- One ecosystem-based approach: the shea tree fits well in an environment to provide shade for other crops. Supporting demand and production contributes to economic development. We are suggesting to work with CBI (centre for supporting export) and the Global Shea Alliance (GSA).

Strategic Goal 4: Maximize the impact of Codex by increasing the visibility and use of standards

- Inclusion in the Codex framework will elevate shea butter's status on the international stage, increasing its recognition among food manufacturers and regulatory authorities. This visibility is expected to drive trade, unlock new markets, and generate significant economic opportunities for producing regions—particularly in Africa, where the shea industry supports millions of livelihoods.
- We aim to contribute to the One Health approach by also considering environmental and sustainability aspects.

E. INFORMATION ON THE RELATION BETWEEN THE PROPOSAL AND OTHER EXISTING CODEX DOCUMENTS AS WELL AS OTHER ONGOING WORK

The **Global Shea Alliance** (GSA) has been for years the most prominent supporting and promoting organization of shea butter worldwide. The GSA is a non-profit industry association with 663 members from 38 countries including women's groups, brands and retailers, suppliers and non-governmental organisations (NGOs). Through public-private partnership, the GSA promotes industry sustainability, quality practices and standards, and demand for shea in food and cosmetics.⁶

The work will build on the existing CXS 325R-2017 (amended in 2020 and 2022) developed by CCAFRICA.

F. IDENTIFICATION OF ANY REQUIREMENT FOR AND AVAILABILITY OF EXPERT SCIENTIFIC ADVICE

None identified at the moment. In case it is identified during the process of developing the standard, it will be requested from FAO and WHO as appropriate.

G. IDENTIFICATION OF ANY NEED FOR TECHNICAL INPUT TO THE STANDARD FROM EXTERNAL BODIES SO THAT THIS CAN BE PLANNED FOR

Relevant standards development organisations (SDOs), such as ISO, AOCS, are expected to participate in the review of the Codex standard.

Relevant private sector organizations will be consulted to share existing standards.

H. THE PROPOSED TIME-LINE 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; THE TIME FRAME FOR DEVELOPING A STANDARD SHOULD NOT NORMALLY EXCEED FIVE YEAR)

It is expected that the development of this standard would be conducted in two CCFO sessions or less, subject to the approval of new work by CAC.

I. CRITERIA FOR THE ESTABLISHMENT OF WORK PRIORITIES: CRITERIA APPLICABLE TO COMMODITIES

Volume of production and consumption in individual countries and volume and pattern of trade between countries and international or regional market potential

The global shea butter market has experienced significant growth in recent years, driven by increasing demand across various industries. The global shea butter market size was valued at USD 3.1 billion in 2025 with projections to achieve USD 6.8 billion by 2035, demonstrating a compound annual growth rate (CAGR) of 8.2% from 2025 to 2035.

- **Unrefined Shea Butter:** This segment continues to dominate the market due to consumer preference for less processed oils, which retain more natural nutrients and benefits⁷.
- **Refined Shea Butter:** Projected to register a CAGR of **8.2%** from 2025 to 2035, driven by its longer shelf life and versatility in various applications⁸.

Drivers of Market Growth:

- **Industries:** Cocoa butter is used in chocolates and confectioneries as a fat source, to give the products luster, texture, and snap. However, cocoa butter is witnessing supply constraints due to the declining yields of cocoa in major producing countries. Therefore, the price of cocoa butter is increasing rapidly, which is compelling manufacturers of chocolates and confectioneries to opt for other alternatives or equivalents to cocoa butter. Furthermore, while some regions present timid demand for chocolate, growing economies and globalization have increased its consumption in the recent past. Over 50% of chocolate consumption occurs in Europe, and around 20% in the United States, putting additional pressure on the cocoa butter market in favor of refined shea butter in Europe. Asian countries are emerging as significant chocolate consumers due to changing socio-economic demographics. The growing demand for chocolate is fueling the demand for fat sources such as shea butter. Shea butter is used to provide and enhance the texture, consistency, and other properties of chocolate, and thus, is anticipated to witness proliferating demand with the ever-growing chocolate market.
- The trend of using refined shea butter is increasing also in the bakery sector as a substitute for other edible vegetable fats and oils, which is further expected to boost the scope of the market. Shea butter and its

⁶ Global Shea Alliance. Available at:

<https://www.globalshea.com/about?page=MzE2Njk3MDQ0LjUxOA==/Who%20we%20are>

⁷ Upfield press release (2021); Available at: <https://upfield.com/press/upfield-joins-the-global-shea-alliance/>

⁸ Honfo, F. G., et al. (2014), Crit Rev Food Sci Nutr, 54(5), pp. 673-86.

fractions are used as an ingredient for margarine and shortening for the manufacturing of several bakery products such as dough, puff pastries, croissants, and others. The production of bakery products requires often solid fats. Butter or a process of hydrogenation of liquid oils is used to harden vegetable oil and obtain margarines. However, nowadays both are perceived as non-sustainable and unhealthy by the consumers. This perception has pushed manufacturers towards using shea butter for the processing of margarines and shortenings for bakery applications.

- In Europe and in USA, new product developments which make veganism both possible and palatable helped the introduction of new branded premium products where shea is a key component since shea butter is seen as being in line with the growing demand for sustainable and ethical products.
- **Production:** in terms of volumes, demand will certainly spur the growth but being that shea is an agro-managed tree crop of plants taking many years to bear fruits for the first time, the price of the shea butter is likely to increase more rapidly than its production, as shown in the figure below.

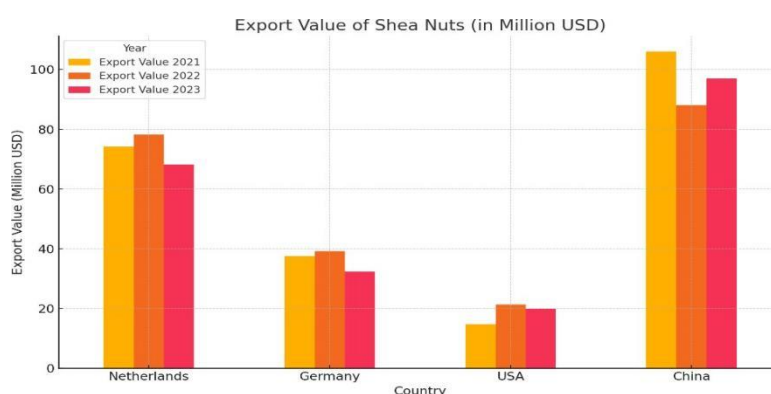


Figure 1: Global Shea Butter market trends in volume and value (2015–2025)

Regional Insights⁹:

- **Europe:** Accounts for over **30%** of global market revenue, with significant consumption in the food industry.
- **North America:** Holds a **28.93%** share of global market revenue, with growing applications in both cosmetics and food products.
- **Asia Pacific:** Expected to grow at a CAGR of **8.7%** from 2025 to 2030, driven by initiatives to introduce shea butter to cosmetics and health sectors in countries like Japan, South Korea, and China.

The graphs below show the export value and volume of shea nuts from 2021 to 2023 to four major destinations: China, the Netherlands, Germany, and the USA.



In recent years opportunities for shea butter, shea stearin and shea olein have also exponentially grown since they have become valuable ingredients in plant butter alternative products (meat and dairy alternatives, mainly), as well as in common vegan and vegetarian products^{10,11}. The shea stearin production is increasing due to rising demand in the food and cosmetics industries, where it's used as a cost-effective alternative to cocoa butter and a natural emollient. Regulatory approvals like the FDA's GRAS status and improved

⁹ Jasaw G.S. et al. (2015). Sustainability 7:3592-3614

¹⁰ Addaquay, J. (2004) Report No. 3, Washington, DC: USAID.

¹¹ [CBI - The European market potential for shea butter for food](#)

processing technologies have further boosted its use in various applications.

Production

Shea butter is the fat from the shea tree. Shea (*Vitellaria paradoxa*, formerly *Butyrospermum parkii*) is an agro-managed tree crop from the *Sapotaceae* family, which is found in the wild, but also growing in parklands and farmlands in large parts of Sub-Saharan Africa. The shea tree provides fruits for direct consumption and is an important source of nutrients and energy for local inhabitants. The shea seeds/kernels are isolated from the fruit bodies, which are collected from the ground in accordance with good practices for shea fruit harvesting and processing and are then typically processed by roasting or boiling and sold as kernels or further processed into crude, or unrefined shea butter^{12,13}. Hand or mechanically processed crude shea butter is sold locally as food mainly regionally.

Outside of Africa, crude shea butter is consumed in food mainly once refined. Refining of shea butter occurs locally or primarily in Europe. The refining process removes the scent and color of the product which makes the fat more suitable for food applications where a bland taste and clear colour is required.



Shea trees



Shea nuts

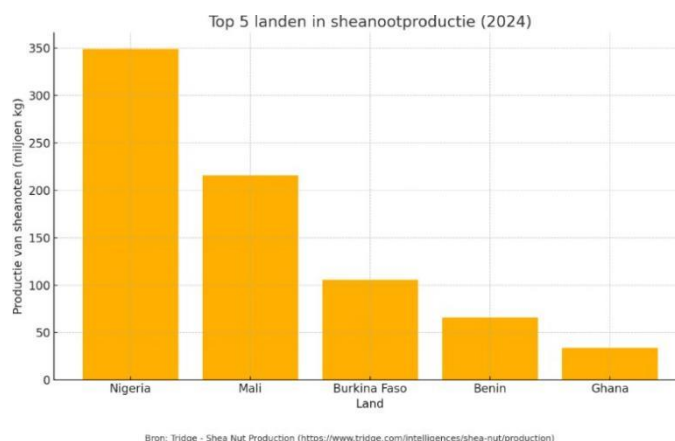


Unrefined shea butter

Refined shea butter

Since the 1960s, refined shea butter and its fractions have been used in Europe as food ingredients, mainly in chocolate products. The fractioned product shea stearin is most likely the most important product derived from shea butter since it's used as a cocoa butter equivalent (CBE) and cocoa butter improver (CBI) in the chocolate and confectionary industry¹⁴.

Major producers include Nigeria: 348,9 million kg, Mali: 215,7 million kg, Burkina Faso: 105,7 million kg, Benin: 65,9 million kg, Ghana: 33,6 million kg. The bar chart below shows the top five countries where shea nut production was highest in 2024¹⁵.



¹² [Tridge - Shea Nut Production](#)

¹³ Okullo, J.B.L., Omujaal, F., Agea, J.G., Vuzi, P.C., Namutebi, A., Okello, J.B.A., & Nyanzi, S.A. (2010). Physico-Chemical Characteristics of Shea Butter (*Vitellaria paradoxa* C.F. Gaertn.) Oil from the Shea District of Uganda. *African Journal of Food, Agriculture, Nutrition and Development*, 10(1), 2070–2084. <https://doi.org/10.4314/ajfand.v10i1.51484>

¹⁴ Garti, H., Agbemaflle, R., & Mahunu, G.K. (2019). Physicochemical Properties and Fatty Acid Composition of Shea Butter from Tamale, Northern Ghana. *UDS International Journal of Development*, 6(3), 35–40. <https://doi.org/10.47740/389.UDSIJD6i>

¹⁵ [Tridge - Shea Nut Production](#)

APPENDIX VI

PROJECT DOCUMENT

**PROPOSED REVISION TO THE STANDARD FOR NAMED VEGETABLE OILS (CXS 210-1999):
CHANGES TO PROVISION FOR STEARIC ACID CONTENT FOR HIGH OLEIC ACID SUNFLOWER
SEED OIL**

(For approval)

1. Purpose and scope of the standard

The purpose of this proposal is to revise the fatty acid (stearic acid C18:0) specification of high oleic acid sunflower seed oil in the *Standard for named vegetable oils* (CXS 210-1999) to facilitate its commercialization conditions.

2. Its relevance and timeliness

High oleic acid sunflower seed oil is one of the most suitable oils for the formulation of frying oils according to the latest recommendations of the World Health Organization. Low saturation and high heat resistance due to its oleic fatty acid content are unique features of this oil, which is mainly cultivated in Eastern Europe, and its demand is increasing day by day due to its higher quality.

3. The main aspects to be covered

An amendment of the stearic acid content of high oleic acid sunflower seed oil, in CXS 210-1999, such that the acceptable range is amended from the current 2.9-6.2% to 2.1-6.2%.

4. An assessment against Section 2: Criteria for the establishment of work priorities

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

4.1 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

The consumption of high oleic acid sunflower seed oil is increasing due to its low saturation and high heat resistance as a healthy oil, and its trade facilitation is considered due to the healthiness of the food basket. The revision will provide specifications for authenticity, hence contributing to consumer protection and the prevention of fraudulent practices.

4.2 Criteria applicable to commodities**4.2.1 Volume of production and consumption in individual countries and volume and pattern of trade between countries**

Approximately 6 million metric tons per year, based on aggregated industry and trade data from major producing regions including the EU, Ukraine, the Russian Federation, Argentina and the United States. Although not reported as a standalone commodity by FAO or USDA, these estimates consistently confirm its substantial presence in international trade. In parallel, Iran imports approximately 20,000–30,000 metric tons annually, corresponding to a total import volume of about 130,000 metric tons during 2021–2024, demonstrating that the proposed revision addresses a relevant and ongoing international trade issue rather than a country-specific concern.

<https://www.marketreportsworld.com/market-reports/sunflower-oil-market-14719307>

<https://www.fao.org/faostat/en/#data/QCL>

The volume and pattern of imports of high oleic oil into Iran and its stearic fatty acid profile supports the proposed amendment of the stearic acid content for high oleic acid sunflower seed oil.

According to current Codex standards, the range of stearic acid content for:

- High oleic acid sunflower seed oil is 2.9%-6.2%;
- Mid-oleic acid sunflower seed oil is 2.1%-5%; and
- Sunflower oil is 2.7%-6.5%.

Recent fatty acid profile analyses from imported high oleic acid sunflower seed oil shipments over the past several years revealed the following:

- Over 38% of samples fall below the Codex-specified 2.9% minimum for stearic acid (highlighted in red in Table 1).
- Exactly 38% of shipments tested at the threshold value of 2.9% (highlighted in yellow in Table 1).

- Due to analytical variability and method uncertainty, some shipments may effectively be below the standard once retested at the destination.
- Only 23% of imported shipments met or exceeded the current 2.9% requirement.

The data in Table 1 indicates a clear inverse correlation between oleic acid and stearic acid levels, as oleic content increases, stearic acid content naturally declines. This trend is characteristic of modern high oleic acid sunflower seed oil cultivars.

Table 1 - Fatty acid composition profile of imported high oleic acid sunflower seed oil shipments (2022-2025)

FAS	CODEX	2021			2022			2023			2024			
		1	2	3	4	5	6	7	8	9	10	11	12	13
C16:0	2.6-5	4.3	3.7	4	3.9	3.9	4.6	4.2	4.2	4.3	4	3.9	3.5	3.1
C18:0	2.9-6.2	2.6	2.9	3	2.9	2.4	2.4	3.5	2.5	3	2.3	2.9	2.9	2.9
C18:1	75-90.7	86.7	85.5	84.7	83.1	87	84.6	86.2	86.2	83.5	87.8	84	83.3	85.4
C18:2	2.1-17	4.5	5.6	6.2	8.5	4.8	5.9	5.1	5.1	6.9	4	7.2	9.5	7.5
C18:3	Max 0.3	0.1	0.1	0.1	0.1	<0.05	0.3	0.1	0.1	0.2	0.1	0.1	<0.1	<0.1
C20:0	0.2-0.5	0.3	0.2	0.3	0.7	0.3	0.3	0.2	0.2	0.3	0.2	0.3	0.3	0.3

Note: The origin of the shipments is from Russia and the regions around the Volga River, and the weight of each shipment is about 10,000 tons.

Additional international evidence indicates that stearic acid levels in high-oleic acid sunflower seed oils may naturally fall below the current Codex minimum of 2.9%. Published studies show an inverse correlation between oleic acid and stearic acid contents in high-oleic sunflower cultivars, meaning that as oleic acid levels increase, stearic acid levels tend to decrease, sometimes below 2.9%.

<https://aocs.onlinelibrary.wiley.com/doi/abs/10.1002/aocs.12206>

<https://www.degruyterbrill.com/document/doi/10.1515/helia-2014-0022/html>

These published findings indicate that the observed variability is cultivar-dependent and not country-specific, reinforcing the need for Codex specifications to reflect current agronomic realities.

It should be noted that the fatty acid composition data presented in Table 1 were not exclusively generated by Iranian laboratories. The results originate from certificates of analysis issued by independent international inspection companies in the exporting countries (e.g., Brazil, Russia, Türkiye, and Ukraine), and were subsequently reconfirmed by accredited laboratories in Iran upon importation. This dual verification, both at origin and destination, ensures the reliability and international validity of the presented data.

Such variability has been observed not only in Iranian import data but also in international breeding and trade reports. Therefore, it is suggested that experiences and analytical data from other Codex Member Countries also be collected and shared to establish a broader international evidence base reflecting the global production realities of high-oleic acid sunflower seed oil.

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

There is significant variation in the fatty acid profile requirements for high oleic acid sunflower seed oil across different national legislations. For example, the European Union and certain South American countries apply broader compositional tolerances than Codex, while other jurisdictions align strictly with Codex specifications. This lack of harmonization has resulted in rejected consignments, additional costs for exporters and importers, and disruptions in the trade of otherwise compliant high oleic acid sunflower seed oil. Revising the Codex specification would reduce these discrepancies, facilitate harmonization, and eliminate unnecessary barriers to international trade.

<https://www.fediol.eu/data/1754318107FEDIOL%20specifications%20for%20HOSO%20oct%202020.pdf>

4.2.3 International or regional market potential

High oleic acid sunflower seed oil is experiencing increasing global demand due to its nutritional profile, oxidative stability, and suitability for frying and processed food applications. The oil is widely traded across Europe, Asia, the Middle East, and Latin America. In particular, developing countries with limited domestic oilseed production rely heavily on imports of high oleic acid sunflower seed oil to meet consumer demand for healthier frying oils. Adjusting Codex specifications to reflect real-world production will ensure that global supply chains remain stable and responsive to growing international market demand.

4.2.4 Amenability of the commodity to standardization

High oleic acid sunflower seed oil is already covered under the Codex *Standard for named vegetable oils* (CXS 210-1999). The oil is routinely traded in bulk shipments and subjected to internationally recognized testing methods for fatty acid composition. Therefore, the commodity is highly amenable to standardization. The only adjustment required is to revise the lower bound of the stearic acid range, in order to bring the specification into alignment with the natural compositional variability observed in modern high oleic sunflower cultivars.

This revision will:

- ensure continued access to high-quality, high oleic acid sunflower seed oil,
- maintain the functional requirements of frying oil formulations, and
- reflect the fatty acid profile of the oils currently available in the global market.

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

Existing Codex standards and methods of analysis adequately cover authenticity, safety, and quality issues for high oleic acid sunflower seed oil. The proposed revision does not introduce any new risks or analytical requirements. Rather, it improves consumer protection and trade facilitation by ensuring that authentic oils are not excluded from the market due to outdated compositional limits. The revision thus strengthens Codex's role in safeguarding fair trade and consumer confidence in oil authenticity.

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

No new commodities require separate standards. The only commodity under consideration in this project document is high oleic acid sunflower seed oil, which remains within the framework of the existing *Standard for named vegetable oils* (CXS 210-1999).

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

No other international organizations have established different compositional standards for high oleic acid sunflower seed oil. However, data from international trade associations and oilseed research institutes indicate a clear trend towards lower stearic acid levels in newly developed cultivars. The International Sunflower Association (ISA) and regional oilseed boards have published reports supporting this variability. This proposal complements those findings and aligns Codex specifications with the realities already acknowledged in scientific and trade circles.

5. **Relevance to the Codex strategic objectives**

This proposal is directly relevant to the Codex strategic objectives, particularly:

- Protecting consumers' health: The proposed revision does not compromise food safety or authenticity. Stearic acid variability is a natural characteristic of high oleic sunflower cultivars and has no negative implications for nutritional quality or consumer protection.
- Ensuring fair practices in the food trade: Current specifications exclude a significant proportion of legitimately produced high oleic acid sunflower seed oils, mainly from Russia and other regions, creating unnecessary trade barriers. Revising the lower limit will facilitate global trade and harmonize Codex standards with market realities.
- Facilitating the participation of developing countries: Iran and other importing developing countries depend heavily on imports of high oleic acid sunflower seed oil. This revision will reduce trade disruptions and ensure sustainable access to healthier edible oils.

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

This revision concerns the *Standard for named vegetable oils* (CXS 210-1999). It does not require revision of other Codex standards but will harmonize provisions across sunflower oils:

- Mid-oleic acid sunflower seed oil is already defined with a stearic acid range of 2.1–5.0%.
- Standard sunflower oil is defined with a range of 2.7–6.5%.
- Aligning the high oleic acid sunflower seed oil specification to 2.1–6.2% better reflects the continuum of sunflower oil cultivars and maintains consistency across Codex standards for vegetable oils.

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

No additional expert advice is required from JECFA, JMPR, or other FAO/WHO scientific bodies, since the revision does not concern food safety, toxicology, or nutrition risks. The proposal is solely a compositional adjustment reflecting natural agronomic variability in sunflower cultivars. The justification is supported by analytical data from several years of import monitoring in Iran, and corroborated by global trade data showing an inverse correlation between oleic acid and stearic acid levels.

The fatty acid composition data presented in Table 1 were obtained according to both national and international standards. Specifically, fatty acids were converted into their methyl esters (FAMES) and analyzed by Gas Chromatography (GC) equipped with a Flame Ionization Detector (FID). The analytical procedures followed the international standards ISO 12966-2 and ISO 12966-4, on which the Iranian national standards are also based (INSO 13126-2 and INSO 13126-4). These methods are consistent with Codex-approved procedures for the determination of fatty acid profiles in vegetable oils.

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

No technical input from external bodies is required, as the change only concerns the numeric range of fatty acid composition already covered by Codex methods of analysis. The revision is straightforward and does not necessitate new testing methods or validation.

9. Proposed timeline for completion of the new work

Subject to approval of the new work by the Codex Alimentarius Commission, it is expected that the CCFO will require two sessions to complete its work.

APPENDIX VII**PROJECT DOCUMENT****PROPOSED REVISION TO THE STANDARD FOR NAMED VEGETABLE OILS (CXS 210-1999) TO INCLUDE SEA BUCKTHORN PULP OIL AND SEA BUCKTHORN SEED OIL**

(For approval)

1. Purpose and scope of the standard

The purpose and scope of this new work is to establish requirements for sea buckthorn pulp oil and seabuckthorn seed oil derived from *Hippophae rhamnoides*, ensuring consumer health protection and facilitating international trade in the growing seabuckthorn oil industry. The scope encompasses oils extracted from the berry pulp and seeds:

- **Seabuckthorn Pulp Oil:** Derived from berry pulp of *Hippophae rhamnoides*
- **Seabuckthorn Seed Oil:** Obtained from seeds of *Hippophae rhamnoides*

The revision to CXS 210-1999 applies to seabuckthorn seed oil and seabuckthorn pulp oil from *Hippophae rhamnoides* intended for direct human consumption, as food ingredients, or for use in functional foods, ensuring compliance with Codex safety and trade standards. It addresses composition, quality criteria (e.g., fatty acid profiles, vitamin content, purity), food safety (e.g., contaminant limits, hygiene), and labeling (e.g., origin, composition, nutritional information) requirements to safeguard consumer health and uphold fair practices in the food trade.

Seabuckthorn oil is extracted from berries and seeds, offering a unique composition of omega-3, -6, -7, and -9 fatty acids, vitamins (E, C, K, A), antioxidants, and phytosterols. These properties drive global demand in functional foods, dietary supplements, cosmetics, and pharmaceuticals across East Asia, Europe, and North America. The absence of an international standard results in quality inconsistencies, counterfeit products, and trade barriers. The requirements to be established shall only apply to seabuckthorn pulp oil and seabuckthorn seed oil used in foods and food supplements where those are regulated as foods.

2. Relevance and timeliness

Given the increasing production, trade, and consumption of seabuckthorn pulp oil and seabuckthorn seed oil, driven by its nutritional and health benefits, it is critical to develop provisions for these commodities in a Codex standard to ensure safety, quality, and hygiene. This standard will serve as a universally recognized reference, established through consensus among member countries, to facilitate fair trade and protect consumer health.

Seabuckthorn oil, derived from the berry pulp and seeds of *Hippophae rhamnoides*, is a high-value product distinguished by its unique composition of omega-3, -6, -7 fatty acids, vitamins (E, C, K), antioxidants, and phytosterols. Unlike vegetable oils covered by existing Codex standards (e.g., CXS 210-1999), seabuckthorn oil's berry-based origin and nutraceutical properties make it prone to adulteration and informal trade. The absence of an international standard leads to quality inconsistencies, counterfeit products, and trade barriers, particularly in key markets such as East Asia, Europe, and North America. The International Seabuckthorn Association (2023) reports cultivation across 2.58 million hectares in 55 countries, with China (88%) and Mongolia as leading producers, underscoring the global significance of this commodity.

3. Main aspects to be covered

The proposed new work to revise CXS 210-1999 to include seabuckthorn pulp oil and seabuckthorn seed oil will include the following sections that are based on the format for Codex commodity standards as well as the structure of the existing Codex standards for fats and oils:

- **Scope:** Defines the applicability of the standard of seabuckthorn pulp oil and seabuckthorn seed oil derived from *Hippophae rhamnoides* for direct human consumption, as food ingredients, or in functional foods.
- **Description of the product:** Specifies the botanical origin (*Hippophae rhamnoides*) and extraction methods for pulp and seed oils.
- **Essential composition and quality Factors:** Includes fatty acid profiles, bioactive compounds (e.g., vitamins, carotenoids, phytosterols), purity, oxidative stability, sensory properties, and physico-chemical characteristics.
- **Essential manufacturing characteristics:** Outlines recognized extraction methods (e.g., centrifugal separation, CO₂ extraction, high-pressure pressing) to ensure consistent quality.

- Food additives, Contaminants, and hygiene requirements: Specifies permissible Codex-approved additives (CXS 192-1995), limits for contaminants such as heavy metals and pesticides (CXS 193-1995), and compliance with hygiene principles (CXC 1-1969).
- Labelling: Mandates clear identification of oil type (pulp or seed), origin, production method, and nutritional information, in line with CXS 1-1985.
- Methods of sampling and analysis: Adopts Codex-recognized methods (CXS 234-1999) for consistent quality and safety assessments.

The standard will align with relevant Codex texts, including CXS 19-1981, and CXS 1-1985.

4. Assessment against the criteria for the establishment of work priorities

The following general criteria, as outlined in the *Codex Procedural Manual* (28th Edition, 2023), apply to the proposed revision to the *Standard for named vegetable oils* to include seabuckthorn pulp oil and seabuckthorn seed oil.

General Criteria

The following general criteria apply to seabuckthorn pulp oil and seabuckthorn seed oil.

- *Facilitate trade and promote sub-sector development*: The revisions to CXS 210-1999 will harmonize quality and safety requirements for seabuckthorn pulp oil and seabuckthorn seed oil, a high-value product cultivated across 2.58 million hectares in 55 countries, primarily in China (88%) and Mongolia (International Seabuckthorn Association, 2023). This will reduce trade barriers and support the growth of the seabuckthorn oil industry in global markets, including East Asia, Europe, and North America.
- *Ensure consumer protection*: By establishing requirements for fatty acid profiles, bioactive compounds (e.g., vitamins, carotenoids, phytosterols), purity, and contaminants, the revisions to CXS 210-1999 will safeguard consumer health, ensure food safety, and promote fair practices in the food trade, addressing issues like adulteration and counterfeit products.
- *Enhance production and processing practices*: The revisions to CXS 210-1999 will define recognized extraction methods (e.g., centrifugal separation for pulp oil, CO₂ extraction or high-pressure pressing for seed oil) to ensure consistent quality and safety in production, collection, and processing of seabuckthorn pulp oil and seabuckthorn seed oil.
- *Support marketing and value chain management*: Clear labelling and quality standards will enhance marketing strategies, enabling better coordination among producers, industries, and consumers in the seabuckthorn oil value chain.
- *Promote research and development*: The revision to CXS 210-1999 will encourage innovation in preservation technologies and value-added products, leveraging seabuckthorn oil's unique composition of omega-3, -6, -7, and -9 fatty acids, vitamins (E, C, K), and antioxidants.
- *Reduce waste and improve production conditions*: Standardized production and quality criteria will optimize resource use, minimize waste, and improve sustainable production practices, particularly in developing countries like Mongolia and China.
- *Contribute to Sustainable Development Goals (SDGs)*: The standard will advance SDGs related to zero hunger (SDG 2), poverty reduction (SDG 1), gender equality (SDG 5) through empowerment of women in agricultural production, and sustainable land use (SDG 15) by promoting environmentally responsible sea buckthorn cultivation.

Criteria applicable to commodities

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

Growing consumer focus on health has increased demand for sea buckthorn oil, particularly in markets like China's Belt and Road Initiative, the EU, and North America, as evidenced by e-commerce platforms like Amazon. However, unclear origin, vitamin content, production methods, and hygiene standards pose risks of consumer confusion and adulteration. Limited international trade data underscores the need for Mongolia to collaborate with stakeholders to compile comprehensive production and trade statistics.

Data from the Mongolian Customs General Administration (2020–June 2025) under HS code 1515.90.00 demonstrates Mongolia's consistent trade activity, with total exports of 8,113.47 kg across 172 transactions. These exports include pulp oil (6,310.72 kg), seed oil (1,505.61 kg), and general sea buckthorn oil in retail sizes (297.14 kg), reflecting diverse industrial and consumer uses. Pulp oil dominates bulk exports, often in large containers (e.g., 5L to 10L), while retail-sized products (e.g., 50ml, 100ml) indicate consumer demand.

(see table 1 and table 2 for Mongolian export data)

Table 1. Mongolia Sea buckthorn Oil Export Summary (2020–2025)

Year	Pulp Oil (kg)	Seed Oil (kg)	General Sea buckthorn Oil (kg)	Total Net Weight (kg)	Transactions
2020	1,498.31	165.46	8.41	1,672.18	28
2021	1,260.27	315.96	44.20	1,620.43	26
2022	1,297.21	594.01	49.50	1,940.72	33
2023	1,016.50	394.94	40.87	1,452.31	26
2024	1,006.27	1.34	45.00	1,052.61	33
2025	232.16	33.90	109.16	375.22	26
Total	6,310.72	1,505.61	297.14	8,113.47	172

Notes: Data sourced from the Mongolian Customs General Administration, including only transactions under HS 1515.90.00 ("Other fixed vegetable fats and oils"). Data for 2025 covers January to June only.

Table 2. Mongolia Seabuckthorn Oil Export by Country (2020)

Country	Pulp Oil (kg)	Seed Oil (kg)	General Seabuckthorn Oil (kg)	Total Net Weight (kg)	Transactions
Taiwan Province of China	1,398.50	0.00	0.00	1,398.50	5
Japan	99.81	165.46	0.00	265.27	6
Germany	0.00	0.00	7.50	7.50	9
South Korea	0.00	0.00	0.90	0.90	5
United States	0.00	0.00	0.01	0.01	3
Total	1,498.31	165.46	8.41	1,672.18	28

Notes: The above table summarizes seabuckthorn oil exports from Mongolia in 2020 under HS code 1515.90.00, based on data from the Mongolian Customs General Administration. It details export volumes by key destination countries and product types (Pulp Oil, Seed Oil, General Seabuckthorn Oil), highlighting trade activity and the need for a specific HS code to enhance trade transparency in support of revising a Codex standard to include these commodities.

The use of HS codes (1515.90.00) for seabuckthorn oil underscores the need for a specific HS code to improve trade tracking and transparency. The inclusion of seabuckthorn pulp oil and seabuckthorn seed oil in CXS 210-1999 would facilitate and harmonize trade practices and support the growing international market for seabuckthorn oil.

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

The absence of an international standard for seabuckthorn pulp oil and seabuckthorn seed oil results in varied national regulations, creating potential barriers to international trade. For instance, China has developed a national standard for seabuckthorn seed oil, and Inner Mongolia has a regional standard (DB15/T 2824-2022). Mongolia regulates seabuckthorn oil under its national standard (MNS 0783), governed by the Mongolian Food Law and Food Safety Law, which adopt Codex Alimentarius standards as national standards to ensure safety, quality, and labeling compliance. However, differences in composition, quality criteria, terminology, and regulatory frameworks across countries lead to inconsistencies that hinder mutual recognition of products.

Further complicating trade, the international Harmonized System (HS) code for seabuckthorn oil is either undefined or inadequately specific. Mongolia uses HS code 151590.00 ("Other fixed vegetable fats and oils"), a broad category that does not distinctly identify seabuckthorn oil. This lack of a specific HS code, combined with limited disaggregated trade data in international databases such as the World Trade Organization's Comtrade Plus (<https://comtradeplus.un.org>), TradeMap (<https://www.trademap.org>), and FAOSTAT, obscures global trade volumes and patterns, impeding market analysis and customs processes.

Variations in processing methods (e.g., CO₂ extraction, mechanical pressing), chemical composition, quality requirements, contaminants increase the risk of fraudulent products, such as those adulterated with lower-cost oils or water. These inconsistencies pose significant trade barriers, undermine consumer trust, and necessitate a harmonized Codex standard to facilitate fair and transparent international trade. This new work will provide a sound basis for internationally harmonized conditions for trade of seabuckthorn oil and reduce the risk of trade impediments.

Imports and exports are already taking place between many countries, especially in e-commerce and high demand is growing for this commodity, due to its unique composition. Therefore, establishing an international standard based on Codex criteria will enhance production and remove technical barriers to trade.

(c) International or regional market potential

The global market for seabuckthorn oil is growing, fueled by rising consumer interest in natural, nutrient-rich products for functional foods, driven by its rich profile of omega-3, omega-6, omega-7, and omega-9 fatty acids, as well as vitamins (e.g., vitamin C, vitamin E, A and K) and antioxidants. Mongolia's export data (2020–2025) reflects consistent trade activity, with 8,113.47 kg exported to international markets including Taiwan Province of China, Japan, Germany, South Korea and the United States.

E-commerce platforms amplify this potential, with seabuckthorn oil products (e.g., capsules, bottled oils) widely offered globally. However, inconsistent quality and labeling standards risk market fragmentation and consumer health risk and confusion. Provisions within CXS 210-1999 for seabuckthorn pulp oil and seabuckthorn seed oil would promote market expansion by ensuring product consistency, boosting consumer trust, and facilitating entry into emerging health-focused markets.

(d) Amenability of the commodity to standardization

Seabuckthorn oil, possesses unique compositional attributes, including high levels of bioactive compounds such as vitamins, fatty acids, which contribute to its recognized nutraceutical properties. As a high-value commodity, it is often subject to informal trading, increasing its vulnerability to adulteration, such as dilution with lower-cost oils.

Due to its distinctive characteristics, seabuckthorn oil commands a premium price, often significantly higher than common edible oils. This price disparity creates an incentive for fraudulent practices, such as blending with cheaper oils, which undermines product integrity and consumer trust.

Standardizing key characteristics of seabuckthorn oil, including its physico-chemical properties and bioactive compound content, can effectively prevent adulteration. Additionally, adapting Codex horizontal standards—such as those for packaging, labeling, and quality control—to seabuckthorn pulp oil and seabuckthorn seed oil will provide clear guidance on production, processing, and commercialization conditions. These measures will establish better-controlled trade practices and ensure product authenticity.

Given that many attributes of seabuckthorn pulp oil and seabuckthorn seed oil, such as its nutritional profile and quality parameters, can be consistently defined and measured, the commodities are highly amenable to standardization.

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

The Codex Alimentarius Commission has developed standards for most edible oils and fats, but no specific standard exists for seabuckthorn pulp oil and seabuckthorn seed oil, despite its growing importance and demand as a food and nutraceutical product. Existing standards, such as the *Standard for edible fats and oils not covered by individual standards* (CXS 19-1981), *Standard for named animal fats* (CXS 211-1999), *Standard for named vegetable oils* (CXS 210-1999), *Standard for fish oils* (CXS 329-2017), and *Standard for olive oils and olive pomace oils* (CXS 33-1981), do not address the unique characteristics of seabuckthorn pulp oil and seabuckthorn seed oil.

Seabuckthorn oil products are widely available on major e-commerce platforms such as Amazon and eBay, as well as other global online marketplaces, reflecting strong consumer demand driven by the oil's health and nutraceutical benefits.

These products originate not only from key producing countries like China, Mongolia but also from other nations involved in seabuckthorn cultivation and processing. However, the absence of an international standard increases the risk of adulteration, including adulteration with lower-cost oils, mislabeling of origin, composition, or bioactive compound content, and inconsistent hygiene standards. Such practices can mislead consumers, undermine trust, and pose health risks due to potential contaminants or substandard quality. The lack of standardized labeling and quality criteria exacerbates these issues, as consumers cannot reliably verify product authenticity or nutritional claims.

Seabuckthorn oil is recognized for its nutritional benefits, including high levels of essential fatty acids and antioxidants, which support cardiovascular health, skin health, and immune function. However, variations in processing methods and quality control can introduce safety risks, such as contamination with heavy metals, pesticides, or microbial agents. Mongolia's national standard (MNS 0783) and China's standards set safety limits for contaminants, but global inconsistencies necessitate a unified approach. A revision to CXS 210-1999 to include seabuckthorn pulp oil and seabuckthorn seed oil would establish clear safety parameters, including maximum residue limits for contaminants and standardized testing protocols, ensuring consumer safety and nutritional integrity across markets.

The proposed revision of CXS 210-1999 will reference and integrate relevant Codex standards to establish comprehensive quality and safety requirements. It will provide clear guidance for producers, traders, and consumers, ensuring consistency in production, processing, and labeling. By setting internationally agreed technical specifications, the standard will enhance consumer protection, facilitate fair trade practices, and reduce the risk of fraudulent products, thereby contributing to global harmonization and market integrity for seabuckthorn pulp oil and seabuckthorn seed oil.

(f) Coverage of consumer protection and trade issues by general and specific standards.

To ensure consumer protection and promote fair trade practices in the seabuckthorn oil industry, a comprehensive standard encompassing three key levels of production and processing is essential:

1. **Raw Material Level:** Standards for primary processing of seabuckthorn berries, including technical requirements, physico-chemical properties, safety criteria, harvesting, transportation, and storage conditions.
2. **Intermediate Processing Level:** Standards for oil extraction technologies (e.g., CO₂ extraction, mechanical pressing, centrifugal force), primary purification, filtration, sedimentation, clarification processes, solvent use, internal quality control, and storage conditions.
3. **Final Product Level:** Standards for oil composition, bioactive compound content, packaging, labeling, and shelf-life requirements.

Currently, no specific standards for seabuckthorn pulp oil and seabuckthorn seed oil exist from Codex, ISO, or FAO. Regional and national standards (e.g., EU, USA, China, Russia, Mongolia) lack the uniformity required for global application, highlighting the need for CXS 210-1999 to be revised to include seabuckthorn pulp oil and seabuckthorn seed oil. Doing so will ensure product quality, provide consumer information, and facilitate trade regulation and inspection.

The absence of provisions for seabuckthorn pulp oil and seabuckthorn seed oil in Codex contributes to consumer protection challenges, particularly in e-commerce markets. Fraudulent practices, such as adulteration with cheaper oils (e.g., palm oil, sunflower oil) or mislabeling of product origins, are prevalent due to inconsistent quality controls. For example, online marketplaces offer seabuckthorn oil products with varying claims about purity and composition, often lacking third-party verification. Mongolia's export data highlights frequent retail-sized exports (e.g., 50 ml, 100 ml bottles), underscoring consumer demand but also the risk of adulteration.

A revised Codex standard would address these issues by defining clear quality criteria, including fatty acid profiles, purity standards, and labeling requirements. This would reduce adulteration, protect consumers, and enhance trust in seabuckthorn oil products. Additionally, harmonized standards would streamline trade by reducing disputes over product specifications and ensuring compliance with international regulations.

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

Seabuckthorn oil encompasses various types (pulp oil, seed oil, and its processing methods). We propose a comprehensive, inclusive, adaptable revision to CXS 210-1999 covering seabuckthorn pulp oil and seabuckthorn seed oil that are relevant to global trade.

(h) Work already undertaken by other international organizations in this field.

No globally recognized international standard for seabuckthorn pulp oil and seabuckthorn seed oil exists. No evidence of similar standardization efforts by other international organizations has been identified. Specific to countries: China has developed a draft national standard for seed oil, and Inner Mongolia has a regional standard. England have reported no specific standards.

Seabuckthorn Oil Standards Comparison Across Countries

The following table summarizes the standards, production, and regulatory information for seabuckthorn oil based on data from China, Mongolia and England that Mongolia have collected to date.

Seabuckthorn Oil standards across countries

Country/Region	Standard	Scope	Key Requirements
China	National Standard for Seabuckthorn Seed Oil GB/T 46295-2025	Seed oil for food use	Specifies main fatty acid profiles and quality parameters
Russia	GOST 30623-1998	Vegetable oils, blended fat products. Falsification and detection method.	The standard includes seabuckthorn pulp oil fatty acid composition, and adulteration detection;
Mongolia	MNS 0783:2025 (Technical Requirements)	Pulp and seed oil for food	Covers production, quality control (e.g., spectrometry), and safety;
England	None	General food safety	Complies with UK REACH, SI regulations; no specific standard

Note to the table: The information presented in the table on seabuckthorn oil standards across China, Mongolia, England, has been collected through official enquiries made to the respective World Trade Organization/Technical Barriers to Trade (WTO/TBT) National Notification and Enquiry Points, as well as relevant national standardization bodies.

5. Relevance to Codex strategic objectives

The standardization of seabuckthorn pulp oil and seabuckthorn seed oil aligns with the Codex Alimentarius Strategic Plan 2026-2031:

Strategic Goal 1, Respond to Members' needs for protecting consumer health and ensuring fair practices in the food trade in an evolving global landscape.

The proposed work strengthens consumer protection and fair trade by defining the essential quality and safety parameters for seabuckthorn pulp oil and seabuckthorn seed oil, including composition, purity, and contaminant limits. These criteria ensure authenticity and prevent **fraudulent substitution** with lower-cost oils that could mislead consumers and damage confidence in the product. By harmonizing specifications among producing and importing countries, the standard will facilitate transparent, science-based trade and support the safe global expansion of this commodity.

Strategic Goal 3: Strengthen relationships with relevant international organizations to address global challenges

The proposed work supports Codex's aim to maintain constructive relationships with relevant organizations in addressing global challenges. Although the International Seabuckthorn Association is not a Codex member or observer, it has shown strong interest in the standardization process. Mongolia and China will ensure that any publicly available scientific information from ISA and other research networks is considered transparently and in accordance with Codex procedures. This exchange of knowledge will help identify information gaps, strengthen the scientific basis of the work, and promote a coordinated understanding of seabuckthorn oil's nutritional and trade significance.

Strategic Goal 4: Maximize the impact of Codex by increasing the visibility and use of standards

Establishing dedicated provisions for seabuckthorn pulp oil and seabuckthorn seed oil in CXS 210-1999 will broaden the reach of Codex texts to a new, high-value product category. It will encourage countries to integrate Codex guidance into their national regulations, promote consistency in labeling and inspection systems, and support fair market access. By serving as the global reference for quality and safety, this standard will strengthen the visibility of Codex as the leading international authority safeguarding consumer health and ensuring fair practices in the food trade

Overall contribution to the Codex mandate and global goals SDGs

The revision of the *Standard for named vegetable oils* (CXS 210-1999) to include seabuckthorn pulp oil and seabuckthorn seed oil supports the achievement of the Sustainable Development Goals. Seabuckthorn naturally grows in rural and climate-vulnerable regions and plays an important role in reducing land degradation and desertification while contributing to food production and income generation. By establishing an international standard, Codex promotes sustainable production, fair market access, and climate resilience, advancing global goals on poverty reduction, food security, and environmental sustainability.

6. Information on the relationship between the proposal and other existing Codex documents

While the Codex Alimentarius Commission has developed standards for widely used oils, no specific standard exists for berry-derived oils like seabuckthorn. The revision of the *Standard for named vegetable oils* (CXS 210-1999) to include seabuckthorn pulp oil and seabuckthorn seed oil will align with the:

- *General principles of food hygiene* (CXC 1-1969)
- *General standard for the labelling of prepackaged foods* (CXS 1-1985)
- *General standard for contaminants and toxins in food and feed* (CXS 193-1995)
- *Recommended methods of analysis and sampling* (CXS 234-1999)
- *Principles and guidelines for the establishment of microbiological criteria* (CXG 21-1997)

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

No specific requirement for expert scientific advice is anticipated at this stage

8. Identification of any need for technical input to the standard from external bodies so that this can be planned for the proposed timeline for completion of the new work.

Technical input may be required from inter-governmental organizations and non-governmental organizations, such as the International Seabuckthorn Association (ISA), which could have expertise in seabuckthorn oil production and trade.

9. Proposed timeline for completion of work

The development of this standard is expected to be two sessions of the Codex Committee on Fats and Oils (CCFO) once work is approved.