

**REPORT OF THE UNITED STATES DELEGATE  
TO THE 28th SESSION OF THE CODEX COMMITTEE ON FATS AND OILS  
Kuala Lumpur, Malaysia  
February 19-23, 2024**

The 28th Session of the Codex Committee on Fats and Oils (CCFO28) met in Kuala Lumpur, Malaysia from February 19 – 23, 2024. The meeting was chaired by Ms. Norrani Eksan, Director for Compliance and Industry Development, in the Food Safety and Quality Division of the Ministry of Health, Malaysia. The Session was attended by participants from 46 member countries, one member organization (the European Union/EU), and 10 observer organizations. The United States was represented by Dr. Girdhari Sharma from the U.S. Food and Drug Administration (FDA), Center for Food Safety and Applied Nutrition, and Dr. Jill Moser (Alternate Delegate) from the Agricultural Research Service (ARS) of the U.S. Department of Agriculture (USDA), assisted by two government advisors from USDA. The 28th Session was very productive, forwarding six standards and two new work proposals to the Codex Alimentarius Commission (CAC) for adoption/approval at its upcoming 47th Session (CAC47, November 2024).

**HIGHLIGHTS**

All draft standards on the CCFO28 agenda will be forwarded to the Codex Alimentarius Commission (CAC) for adoption at its upcoming 47th Session (CAC47, November 2024), including the following:

- *Standard for Named Vegetable Oils* (CXS 210-1999)
  - Inclusion of avocado oil
  - Inclusion of camellia seed oil
  - Inclusion of sacha inchi oil
  - Inclusion of high oleic acid soya bean oil
- *Standard for Fish Oils* (CXS 329-2017)
  - Inclusion of calanus oil
- *Standard for Olive Oils and Olive Pomace Oils* (CXS 33-1981)
  - Revision of Sections 3, 8, and Appendix

CCFO also recommended that CAC47 approve new work on the following:

- Proposed Draft Standard for Microbial Omega-3 Oils
- Proposed Revisions to Codex Standards on Fats and Oils to Reduce Trans-Fatty Acid Intake

The official report of the 28<sup>th</sup> Session of the CCFO can be found in document REP22/FO, posted on the Codex website at: <https://www.fao.org/fao-who-codexalimentarius/committees/committee/en/?committee=CCFO>.

**NEXT SESSION OF CCFO**

The 29<sup>th</sup> Session of CCFO is tentatively scheduled for February 9 – 13, 2026, subject to confirmation by the host government in consultation with the Codex Secretariat.

## SUMMARY OF KEY MEETING TOPICS

### Inclusion of Avocado Oil – Proposed Draft Amendment/Revision to the Standard for Named Vegetable Oils (CXS 210- 1999)

**To Be Presented for Adoption at Next CAC?** Yes

**Have the United States’ Objectives Been Met?** Yes

**Is it anticipated that this item will or should be raised at the CAC because it is contentious?** No

---

#### **United States Objective**

The United States objective was to advance this standard for final adoption by the CAC47.

---

#### **Discussion in Relation to United States’ Objectives**

CCFO27 (2021) established an electronic working group (EWG), chaired by Mexico and co-chaired by United States, to review the ranges for certain sterols. CCFO28 discussed the outstanding issues identified at CCFO27 and remaining areas identified with square brackets in the draft amendment to the standard, proposed minimum values for beta-sitosterol, delta-7-stigmastenol, total sterols, ‘Others’ and ‘Clerosterol.’ CCFO also considered how clerosterol content should be indicated in Table 3, either included as an extra line in Table 3, or as a footnote to Table 3. CCFO also considered data on tocopherols and tocotrienol in avocado oil that were obtained in response to the Circular Letter (CL) issued by the Secretariat (CL 2022/12-FO) to propose ranges for Table 4.

The United States and Mexico, as chairs of the working group, presented recommendations based on an analysis of the data collected, all of which were accepted by CCFO. CCFO agreed with the following:

**Beta-sitosterol:** Agreed to the range of 79.0 to 93.4. Chile proposed to retain the proposed lower level of 75.0%, but the United States as co-chair and Mexico as chair of the EWG explained that this value of 79% was developed based on data derived from many regions and was important for avocado oil authenticity. The European Union, Canada, and other countries supported the value of 79%.

**Delta-7-stigmastenol:** Agreed to retain the upper value at 1.5% (range of ND – 1.5). The European Union supported a value of 1.0%. The United States explained that the value of 1.5% was arrived by the EWG as a compromise among many regions. Kenya, Mexico, Canada supported 1.5%, and Australia supported 1.0%.

**“Others”:** CCFO28 agreed to retain the lower value of ND for “Others.”

**Clerosterol:** CCFO28 agreed to the proposed lower limit for clerosterol of 1.0%. Although the upper limit of clerosterol was not identified as open for discussion, Kenya proposed to change the upper limit for clerosterol from 2.0% to 2.5% to accommodate oil grown in the African region. The United States, Mexico, Canada, and the European Union supported this proposed change.

**Footnote for Clerosterol:** The report of the EWG recommended that clerosterol content be declared as a footnote to the ‘Others’ category on Table 3, stating “Avocado oil also contains 1.0

- .5 % clerosterol,” since clerosterol is not already present in Table 3. However, during discussion of this provision, Canada and Germany suggested that the placement of the footnote for clerosterol with the ‘Others’ category could be confusing, since clerosterol might be considered as one of the ‘Others’ and the upper limit for ‘clerosterol’ is 2.5%, which is above upper limit for ‘Others.’ After side discussions among Mexico, Germany, the United States, and Canada, it was decided that it would be best to move the reference to the footnote from the provision “Others” in the table to “Avocado oil” (i.e. name of the oil) at the top of the table to avoid any confusion between the range for “Others” (ND – 2.0%) and clerosterol (1.0 – 2.5%).

**Total Sterols:** CCFO28 agreed on the range of 3000 – 7500 mg/kg for total sterols. While the EWG in its report noted general agreement for the range of 3500 – 6500 mg/kg for total sterols, Australia proposed the lower value of 3000 mg/kg. In addition, Kenya noted that avocado oils from the African production region are noted to have higher total sterols content and proposed a higher value of 7500 mg/kg. Italy also supported these proposed changes. The European Union supported this upper limit and proposed the ranges of 3000 – 7500 mg/kg. The United States and Mexico did not object to these proposed changes, as data from different production regions showed a larger range of total sterols.

**Other Matters:**

The Delegation of the European Union noted that new data were emerging from new growing regions which would require changes to Table 1 (in particular, C16:0, C18:1 and C18:2) and Table 3 (campesterol). In addition, Thailand proposed changes to the minimum for C18:1 to reflect avocado oil from their country. However, especially considering that these parameters had already been considered in CCFO27 (2021), CCFO decided that for now, CCFO should complete its work on avocado oil at this session and could consider new data in future sessions.

The United States noted that cis-vaccenic acid (C18:1 n7) was a potential unique parameter that could be used to authenticate avocado oil which, as a high value product, is at a heightened risk of adulteration. Members were encouraged to collect data on this isomer of C18:1 as part of their data collection efforts on the fatty acid profile of avocado oils, for potential incorporation of this parameter in the future.

---

**Outcome/Conclusion**

CCFO28 agreed to forward the proposed draft amendment/revision to the *Standard for Named Vegetable Oils* (CXS 210-1999) – inclusion of avocado oil, to CAC47 for final adoption at Step 8.

Inclusion of Camellia Seed Oil – Proposed Draft Amendment/Revision to the Standard for Named Vegetable Oils (CXS 210-1999)

**To Be Presented for Adoption at Next CAC?** Yes

**Have the United States’ Objectives Been Met?** Yes

**Is it anticipated that this item will or should be raised at the CAC because it is contentious?** No

---

**United States Objective**

The United States objective was to support advancement of this standard for final adoption by CAC47.

---

**Discussion in Relation to United States’ Objectives**

The United States supported the work to amend/revise the *Standard for Named Vegetable Oils* (CXS 210-1999) to include camellia seed oil due to its enhanced functionality as a high oleic oil. Camellia seed oil, which is derived from the seeds of camellia (*Camellia oleifera* Abel), has been extensively cultivated as an oil crop in many countries, such as China, the Philippines, India and South Korea; in Asia, it is considered one of the primary oils for cooking and is also used in the cosmetics sector. China, as the Chair of the EWG, presented the proposed draft including changes made after considering the comments received in response to CL 2023/58/FO. CCFO agreed with the draft proposal. Additionally, CCFO agreed to the proposal by Japan to add *C. japonica* in the definition because camellia seed oil derived from seeds of this species is traded internationally.

---

**Outcome/Conclusion**

CCFO28 agreed to forward the proposed draft amendment/revision to the *Standard for Named Vegetable Oils* (CXS 210-1999) – inclusion of camelia seed oil, to CAC47 for final adoption at Step 5/8.

Inclusion of Sacha Inchi Oil – Proposed Draft Amendment/Revision to the Standard for Named Vegetable Oils (CXS 210-1999)

**To Be Presented for Adoption at Next CAC?** Yes

**Have the United States’ Objectives Been Met?** Yes

**Is it anticipated that this item will or should be raised at the CAC because it is contentious?** No

---

**United States Objective**

The United States objective was to support advancement of this standard for final adoption by CAC47.

---

**Discussion in Relation to United States’ Objectives**

The United States generally supports establishing Codex standards for oils produced and traded internationally. Sacha Inchi oil, which is derived from seeds of sacha inchi (*Plukenetia volubilis* L.), is native to certain regions of South America and the Caribbean. It is traditionally consumed by indigenous groups in Peru, eaten roasted or made into a fine powder to add to food products. The oil is also extracted from the seeds and used in cooking or skin care products. Peru, as the Chair of the EWG, introduced this proposed amendment to the standard and noted changes incorporated in the proposal after considering the comments received in response to CL 2023/59/FO. CCFO agreed with all provisions in the revised proposal.

---

**Outcome/Conclusion**

CCFO28 agreed to forward the proposed draft amendment/revision to the *Standard for Named Vegetable Oils (CXS 210-1999)* – inclusion of sacha inchi oil, to CAC47 for final adoption at Step 5/8.

Inclusion of High Oleic Acid Soya Bean Oil – Proposed Draft Amendment/Revision to the Standard for Named Vegetable Oils (CXS 210-1999)

**To Be Presented for Adoption at Next CAC?** Yes

**Have the United States' Objectives Been Met?** Yes

**Is it anticipated that this item will or should be raised at the CAC because it is contentious?**

No.

---

**United States Objective**

The United States objective was to advance this standard for final adoption by the CAC47.

---

**Discussion in Relation to United States' Objectives**

The United States strongly supported forwarding the revision/amendment to the Codex *Standard for Named Vegetable Oils* (CXS 210-1999) to include high oleic acid soya bean oil for final adoption by CAC47. High oleic soya bean oil has enhanced functionality due to its relatively high oleic acid content. The revision would enable Codex member countries and the food industry to characterize, name, and appropriately market high oleic acid soya bean oil developed for improved functional and nutritional benefits for consumers and the food processing industry. The amendment would also facilitate fair trade practices and is consistent with two existing provisions in the standard – high oleic acid sunflower oil and high oleic acid safflower oil. The United States originally proposed this work, and chaired the EWG, and introduced the revised draft amendment at CCFO28, noting changes made to the proposal after consideration of comments received in response to CL 2023/60/FO. These changes included revising C18:2 from 1.0-12.0 to 1.0-16.0. The United States suggested retaining the C18:1 range of 65.0-87.0. CCFO agreed to the provisions in the revised proposal and supported finalization without further issue.

---

**Outcome/Conclusion**

CCFO28 agreed to forward the proposed draft amendment/revision to the *Standard for Named Vegetable Oils* (CXS 210-1999) – inclusion of high oleic acid soya bean oil, to CAC47 for final adoption at Step 5/8.

Inclusion of Calanus Oil - Proposed Draft Amendment/Revision of the Standard for Fish Oils (CXS 329-2017)

**To Be Presented for Adoption at Next CAC?** Yes

**Have the United States' Objectives Been Met?** Yes

**Is it anticipated that this item will or should be raised at the CAC because it is contentious?** No

---

**United States Objective**

The United States objective was to support advancement of this standard for final adoption by the CAC47.

---

**Discussion in Relation to United States' Objectives**

As the Chair of the EWG, Norway introduced this work and noted that the standard applies to oils used in food and food supplements where those are regulated as foods, not to the foods or food supplements themselves. CCFO28 agreed to finalize the revised proposed draft amendment, including provisions for safety-related specifications,

The European Union, citing safety concerns, supported including safety-related specifications (e.g., astaxanthin esters levels) in the proposed draft standard, as well as guidance on the conditions under which calanus oil may be used. The European Union reported that calanus oil contains astaxanthin, a substance with an established acceptable daily intake (ADI) in their region, which is only authorized in food supplements (excluding food supplements for infants and young children), up to different maximum levels established for different age groups and subject to additional labelling requirements. The EWG Chair Norway indicated that provisions linked to food supplements as regulated by specific Members were outside the scope of CXS 329-2017. CCFO noted that food safety provisions are included within the scope of CXS 329-2017 and that the scope of the standard includes fish oils used in food and in food supplements where those are regulated as foods.

To address the concerns of the European Union on safe levels of intake of astaxanthin, CCFO agreed to add two provisions to the proposed draft standard:

- Section 3.5: Other compounds – Maximum levels of astaxanthin in calanus oil (Section 2.1.6) shall comply with regulations of the country of retail sale.
- Section 7.3: Other labelling requirements – For calanus oil (Section 2.1.6), the maximum intake level of astaxanthin shall be declared if required by the country of retail sale in accordance with the acceptable daily intake established for different age groups by competent authorities.

---

**Outcome/Conclusion**

CCFO28 agreed to advance the proposed draft amendment/revision to the *Standard for Fish Oils* (CXS 329-2017) – inclusion of Calanus oil, to CAC47 for final adoption at Step 5/8. CCFO also agreed to forward the method for the determination of wax content for endorsement by the Codex Committee of Methods and Analysis and Sampling (CCMAS) and to forward the labelling provision related to astaxanthin for endorsement by Codex Committee on Food Labeling (CCFL).

Proposed Draft Revision to the Standard for Olive Oils and Olive Pomace Oils (CXS 33- 1981):  
Revision of Sections 3, 8, and Appendix

**To Be Presented for Adoption at Next CAC?** Yes

**Have the United States' Objectives Been Met?** Mostly

**Is it anticipated that this item will or should be raised at the CAC because it is contentious?**

Yes possibly, because there was strong debate at CCFO, which could be revisited at the CAC.

---

**United States Objective:** The United States objective was to advance the *Standard for Olive Oils and Olive Pomace Oils* (CXS 33-1981) while ensuring integrity and fair trade practices for authentic olive oils produced by all Codex members, not favoring any producing region.

---

**Discussion in Relation to United States' Objectives**

CCFO focused on the resolving the following issues:

**Section 3.2.1/GLC ranges of fatty acid composition (expressed as percentages of total fatty acids)**

In the spirit of compromise, CCFO endorsed the value of 53% as the minimum value of C18:1. The United States supported this minimum value of 53% because it is more inclusive of authentic oils with low C18:1. Others supported the alternative value of 55% as the minimum value of C18:1 since this value was in their legislation and they believed it was important for ensuring authenticity of olive oil. In conclusion, the majority of CCFO members agreed with the compromise in order to have a standard that was inclusive of all authentic olive oils, which vary due to geographical factors and climatic factors.

**Uncertainty measurements for Trans fatty acids**

CCFO28 endorsed the recommendation of the in-session working group to maintain the two decimal places for uncertainty measurements for this parameter. The United States supported the use of two decimal places in the trans fatty acid limit.

**3.2.3 4 $\alpha$ -Desmethylsterols composition (% total 4 $\alpha$ -desmethylsterols): Footnote regarding sterols**

The United States along with Australia, Canada, Peru, Chile, and Syria, supported having a footnote with the general statement on sterols in virgin olive oil, which stated that "Virgin olive oil's authenticity is not compromised if one sterol, or their minimum content, does not fall within the ranges provided for, if all other sterols and parameters tested referred to in this standard fall within the stated ranges." The statement was considered justified because climatic and geographic conditions can impact sterol composition and may result in some authentic virgin olive oils with a sterol value different from that in the proposed standard. However, many countries, including the European Union and several countries from North Africa and Middle East and Brazil, did not support the footnote, finding it too general and expressing concern that it could compromise authenticity of olive oils.

As a compromise and after much debate, CCFO agreed to remove the general statement but revise the decision tree footnote on campesterol level to be inclusive of authentic oils that may have high campesterol levels, which may occur for oils from United States and other non-Mediterranean regions. The upper level for campesterol in the decision tree (in footnote b)



were subsequently changed from  $\leq 4.5\%$  to  $\leq 4.8\%$  to accommodate authentic virgin and extra virgin olive oils in the higher range. The revised footnote now reads as follow:

“When a virgin or extra virgin olive oil naturally has a campesterol level  $> 4.0\%$  and  $\leq 4.8\%$ , it may be considered authentic if the stigmaterol level is  $\leq 1.4\%$  and the delta-7-stigmastenol level is  $\leq 0.3\%$ . The other parameters shall meet the limits set out in the standard.”

Syria proposed to revise the decision tree for delta-7-stigmastenol levels in footnote c. In response, the Chairperson encouraged members to undertake studies for consideration at a future session of CCFO. Syria recorded a reservation to the decision tree relating to delta-7-stigmastenol.

### **Section 3.3.1 Organoleptic characteristics of virgin olive oils**

The United States, Australia and Canada did not support increasing the value of the median of the most perceived defect for virgin olive oil from 2.5 to 3.5 with a footnote “includes the uncertainty predicted by the IOC method.” However, other members, many of which are members of the International Olive Council (IOC) from the European Union and North Africa and Middle East region, including Italy, Spain, Brazil, Morocco, Syria, Greece, France, Tunisia, Portugal, and United Kingdom, strongly supported this change to 3.5. In the spirit of compromise, CCFO agreed to maintain the lower defect value of 2.5, since it was in the original standard, and to add a footnote indicating that this value does not include the uncertainty of the measure calculated by IOC method.

### **Appendix I: Section 1.5/1,2-diglycerides (% total diglycerides) and Section 1.6/Pyropheophytin "a" (% total chlorophyll pigments)**

The United States did not support the removal of the provisions for 1,2-diglycerides (DAGs) and pyropheophytin “a” (PPP), and their associated analytical method as an additional quality factor in the appendix of the Standard. This parameter is useful to determine the quality of extra virgin olive oil and thus, at very least, should be included in “Quality Characteristics” in the Appendix. However, many olive oil producing countries, (especially members of the International Olive Council (IOC), including Greece, Portugal, Spain, the European Union, Morocco, France, Italy, as well as OIC as an observer organization), did not support these parameters, noting that in their view there is a lack of scientific evidence supporting them as quality parameters and that parameters based on freshness are not appropriate criteria.

While keeping these quality parameters (PPP and DAGs) as part of the standard was a top priority for U.S. and Australian industry stakeholders, the European Union, North African, and Middle Eastern countries strongly opposed them. As a compromise, CCFO agreed to issue a data call for these quality parameters, leaving open the possibility of including them in the standard in the future, depending on the results of the data collected. Additionally, to promote harmonization in use of specific methods for data collection, CCFO agreed to retain the methods of analysis for PPP and DAGs with a footnote indicating these methods are retained pending review in CCFO29 and CCFO30.

### **Section 8 and Section 3 of the Appendix: Methods of Analysis**

CCFO supported harmonizing the methods of analysis and agreed to forward the updated list of methods, including methods for PPP and DAGs. Although not listed in the standard provisions, these methods will be further reviewed by CCFO for possible later inclusion and by the Codex Committee on Methods and Analysis (CCMAS) for endorsement. CCMAS will be informed that

these methods are pending review may be sent for their endorsement. The United States supported this recommendation.

---

**Outcome/Conclusion**

CCFO28 agreed to advance the proposed draft revision to the *Standard for Olive Oils and Olive Pomace Oils* (CXS 33-1981) to CAC47 for final adoption at Step 5/8. CCFO28 also agreed to forward the revised Methods of Analysis for olive oils and pomace oils to CCMAS for endorsement, noting that a review of the parameters DAGs and PPP is ongoing. To carry out the review of DAGs and PPP, CCFO28 agreed to establish an electronic working group, chaired by Italy and co-chaired by the United States, Saudia Arabia, Australia, and Canada, to collect scientific data for these quality parameters, assess the suitability of data, and present a report at CCFO29 for possible expert consultation to review available data on PPP and DAGs.

**Other Comments**

Work to revise the *Standard for Olive Oils and Olive Pomace Oils* (CXS 33-1981) has been ongoing for over eight years. The United States believes that these revisions make the standard more inclusive of authentic oils from all member countries, including the United States. whose olive oils may vary in some respects from the oils produced in Mediterranean countries due climatic, geographic, and varietal differences.

Retaining the quality parameters, PPP and DAGs, was a top priority for the U.S. and Australian industries. The agreed upon process will allow for including PPP and DAGs into the standard, depending on the results of the data collected and decision at a future session of CCFO. The United States will co-chair the electronic working group collecting data on PPP and DAGs, along with the lead chair Italy and other co-chairs including Saudia Arabia, Australia and Canada. CCFO agreed to inform CCEXEC of this need for data collection and requesting CCEXEC for extension to CCFO30 for consideration of this issue.

Discussion Paper on Possible Work that CCFO Could Undertake to Reduce TFAs or Eliminate PHOs

**To Be Presented for Adoption at Next CAC?** No

**Have the United States' Objectives Been Met?** Yes

**Is it anticipated that this item will or should be raised at the CAC because it is contentious?** No

---

**United States Objective**

The United States supports efforts to reduce trans fatty acid (TFA) intake or eliminate industrially-produced partially hydrogenated oils (PHOs) by revising appropriate standards for fats and oils and agrees with the recommendation to amend some standards to prohibit PHOs.

---

**Discussion in Relation to United States' Objectives**

There was general support for the new work proposal. Discussion of the proposal highlighted the need to refer to industrial trans fatty acids (iTFA) consistently, which members considered to be the main objective of the work. Brazil proposed considering the *Standard for Named Vegetable Oils* (CXS 210-1999) in the new work. Japan noted the standard should be sufficiently flexible to reflect that countries have taken different approaches in either prohibiting PHOs or setting limits on TFAs. The European Union supported banning PHOs and limiting trans fats and raised that allowing flexibility would create issues for national enforcement. One observer, the International Dairy Federation, proposed that the focus should be on ingredients rather than end products for easier monitoring and to consider appropriate methods. It was also clarified that the *Standard for Named Vegetable Oils* (CXS 210-1999) was not included in the scope of the work, as it focuses on pure oils where partial hydrogenation is not an issue and even if refining occurs, levels remain very low. The United States supported this outcome.

---

**Outcome/Conclusion**

CCFO28 agreed to forward the proposal for new work on the proposed revisions to Codex standards on fats and oils to reduce trans-fatty acid intake to CAC47 for approval. CCFO28 also established an EWG, chaired by Canada and co-chaired by Saudi Arabia, to prepare proposed draft revisions in CCFO standards for circulation for comments by members and observers, and consideration by CCFO29.

## Proposals for New Work: Standard for Microbial Omega-3 Oils

**To Be Presented for Adoption at Next CAC?** No

**Have the United States' Objectives Been Met?** Yes

**Is it anticipated that this item will or should be raised at the CAC because it is contentious?**

Possibly, since this new work relates to the CAC interest in new foods and production systems.

### **United States Objective**

The United States objective was to support the work to develop a new standard for microbial omega-3 oils for use in human consumption.

### **Discussion in Relation to United States' Objectives**

There was general support for this proposal. However, some members, including the European Union, did not support the proposal and expressed concerns about the safety, noting that Codex has not yet put in place a mechanism for the safety assessment of new foods. Regarding the safety concerns raised, the Global Organization for EPA and DHA Omega-3s (GOED), the observer organization which originally proposed the new work, noted that the product was already traded internationally, that several jurisdictions in the European Union had considered the safety perspectives, and there was already sufficient information regarding product safety without the need to undertake a new international risk assessment. CCFO noted that different countries have different authorization processes for such products but that should not prevent the development of a standard. The Codex Secretariat clarified that members could propose additions to the proposal including the option of indicating that scientific advice was needed to support the work while developing the standard. The majority of CCFO member countries, including United States, India, Kenya and China, supported the new work.

### **Outcome/ Conclusion**

CCFO28 agreed to forward the proposal for new work on a standard for microbial omega-3 oils to CAC47 for approval. Assuming CAC approval, CCFO28 also agreed to establish an EWG, chaired by the United States and co-chaired by China, to prepare the proposed draft standard for circulation for comments by Codex members and observers and consideration by CCFO29.