



Agenda Item 5

CX/FO17/25/5
October 2017

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON FATS AND OILS

25th Session

Kuala Lumpur, Malaysia, 27 February - 3 March 2017

Proposed draft revision to the *Standard for Olive Oils and Olive Pomace Oils* (CODEX STAN 33-1981): Revision of the Limit for Campesterol

(Prepared by the Electronic Working Group chaired by Argentina and co-chaired by Australia and Italy)

(At Step 3)

Governments and interested international organizations are invited to submit comments on **the proposed draft revision to the standard as presented in Appendix I**, at Step 3, **by 9 January 2017**.

Comments should be submitted through the Codex online Commenting System (OCS): <https://ocs.codexalimentarius.org/> as stipulated in [CL 2016/40 – FO](#).

Background

1. At the 24th Session of the Codex Committee on Fats and Oils (CCFO24), an electronic working group (eWG) led by Argentina and co-chaired by Australia and Italy and working in English only was established to analyse the amendment to Section 3 of the Standard for Olive Oils and Olive Pomace Oils (CODEX STAN 33-1981) in relation to the limit for campesterol.
2. The mandate of the eWG was “*To review Section 3 of the Standard for Olive Oils and Olive Pomace Oils (CODEX STAN 33-1981) and in particular to introduce an exception for authentic virgin olive oils that naturally deviate from the current limit of campesterol, provided that more effective criteria are set by reducing limits of certain already existing parameters, taking into account Codex Member data, the IOOC Standard and other relevant work with a view to facilitate trade and ensure virgin olive oil authenticity.*”¹
3. The list of eWG participants is attached as Appendix II to this document.

Discussion in the Working Group

4. Members were invited to send analytical data from authentic virgin and extra virgin olive oils with a campesterol limit above 4%, and replies were received from Argentina, Australia, Canada, France, Greece, Italy, Turkey, Spain, the United States of America and the International Olive Council (IOC).
5. Data were analyzed statistically, and the first draft document was prepared and submitted in February 2016 to members for comments.
6. In June, 2016 the second draft was sent to eWG members and their comments were received in early August.
7. The document proposed the introduction of a note and the following two options for the amendment of the Standard were provided to members of the eWG for comments:

Option 1:

8. (*) When an authentic oil naturally has a campesterol level >4.0 and $\leq 4.8\%$, it is considered virgin and extra virgin olive oil if the stigmastanol level is $\leq 1.4\%$, the delta-7-stigmastanol level is $\leq 0.3\%$ and stigmastadienes is ≤ 0.05 mg/kg. The other parameters shall meet the limits set out in the standard.

¹ Para 116, REP15/FO

Option 2:

9. (*) When an authentic oil naturally has a campesterol level >4.0 and $\leq 4.5\%$, it is considered virgin and extra virgin olive oil if the stigmasterol 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.

10. Some members (Argentina, Australia, Canada and the United States of America) preferred option 1, while others (France, Greece, Italy, Tunisia, the European Union and the International Olive Council (IOC)) preferred option 2, stating that a stigmastadienes level of ≤ 0.05 mg/kg should be included.

11. Members choosing option 2 proposed to amend the Standard for Olive Oils and Olive Pomace Oils (CODEX STAN 33-1981) according to the decision tree considered by the IOC Trade Standard Applying to Olive Oils and Olive-Pomace Oils, although the application of this limit to authentic olive oils leads to a higher percentage of non-conformities compared to the option that sets the limit of campesterol to 4.8%.

12. On the basis of various simulations of possible adulterations of extra virgin olive oils with different seed oils, the IOC demonstrated that option 2 is slightly more efficient in detecting the minimum level of seed oils in olive oil compared to option 1. Moreover, the IOC stressed the need to harmonize all the other parameters and methods with the IOC standard to ensure the two standards are equivalent, particularly the limits for stigmastadiene and myristic acid, which are very important purity criteria.

13. For this reason, France, Greece, Italy, Tunisia, the European Union and the IOC proposed an alternative version of option 2 that also includes the limit of stigmastadienes of 0.05 mg/kg. The footnote to the campesterol limit in CODEX STAN 33-1981 is then proposed to read as follows:

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

15. On the other hand, those preferring option 1 argue that there are other parameters in the Codex standard through which fraud can be detected and which should also be taken into account when making this amendment. An example of this would be that, although this tree would not be very effective for detecting a fraud with mustard or rapeseed oils, these would be detected through the apparent beta-sitosterol level to determine 1% adulteration. In the case of fraud with rapeseed oil, the brassicasterol level is even more effective, as it can detect 0.1% adulteration. Similarly, peanut oil can be detected through behenic acid; cottonseed, palm and palm kernel oils through myristic acid, and sunflower and safflower oils through delta-7-stigmasterol. In addition, the inclusion of stigmastadienes to level of ≤ 0.05 mg/kg for all virgin olive oils would enable the detection of $\leq 1\%$ refined oil in an adulterated olive oil, considering that the average content of stigmastadienes in refined seed oils is approximately 12 mg/L with minimum levels at approximately 6 mg/L. Thus, they could be considered authentic virgin olive or extra virgin olive oils that, depending on agro-ecological conditions and olive varieties, naturally deviate from the campesterol level currently established in CODEX STAN 33-1981, thus ensuring a fairer, more transparent trade.

Conclusion and recommendation

16. Having analyzed the submitted positions of eWG members, the Chair and co-chairs conclude that the eWG members agreed on most of the points; however, members could not agree on the campesterol concentration when it naturally deviates from the current limit of 4.0%. Thus, members should continue with the discussion at the next CCFO25 to agree on the best option for the amendment to Section 3 of the Standard for Olive Oils and Olive Pomace Oils (CODEX STAN 33-1981) and complete the work.

17. The eWG recommends that the Committee consider the proposed draft as presented in Appendix I. In particular, special attention should be paid to the parameters in square brackets in the proposed note.

Appendix I

Proposed draft revision to the *Standard for Olive Oils and Olive Pomace Oils* (CODEX STAN 33-1981):
Revision of the Limit for Campesterol

(At Step 3)

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

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

Sterol and triterpene dialcohol composition

Desmethylsterol composition (% total sterols)

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

*** When an authentic oil naturally has a campesterol level >4.0 and ≤ [4.8%] or [4.5%], it is considered virgin and extra virgin olive oil if the stigmasterol level is ≤ 1.4%, the delta-7-stigmastenol level is ≤ 0.3% and stigmastadienes is ≤0.05 mg/kg. The other parameters shall meet the limits set out in the standard.**

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