

CODEX ALIMENTARIUS COMMISSION



Food and Agriculture
Organization of the
United Nations



World Health
Organization

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TO: Codex Contact Points
Contact Points of international organizations having observer status with Codex

FROM: Secretariat, Codex Alimentarius Commission,
Joint FAO/WHO Food Standards Programme

SUBJECT: Request for Comments at Step 3 on the proposed draft revision of the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999): Addition of Palm Oil with High Oleic Acid (OxG)

DEADLINE: 9 January 2017

BACKGROUND:

1. At the 24th Session held in Melaka, Malaysia, the Codex Committee on Fats and Oils (CCFO), agreed to establish an electronic Working Group (EWG)¹ led by Colombia and co-chaired by Ecuador, open to all members and observers and working in English only, to prepare, subject to approval of the Commission, a proposed draft revision of the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999), for circulation for comments at Step 3 and consideration at its next session.
2. The comments provided by countries were analyzed and those considered applicable were incorporated in the proposed revision
3. The proposed draft revision to CODEX STAN 210-1999, (at Step 3), as presented in the report of the eWG (document CX/FO17/25/6) will be considered at the 25th Session of the CCFO to be held in Kuala Lumpur, Malaysia, 27 February - 3 March 2017.

REQUEST FOR COMMENTS:

4. Codex members and observers are invited to submit comments, at Step 3, on the attached proposed draft revision of the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999): Addition of Palm Oil with High Oleic Acid (OxG (Appendix I)), as per the general guidance below.
5. The proposed draft revision to the standard is uploaded to the Codex Online Commenting System (OCS): <https://ocs.codexalimentarius.org/>.

GENERAL GUIDANCE FOR THE PROVISION OF COMMENTS:

6. Comments should be submitted through the Codex Contact Points of Codex members and observers using the OCS.
7. Contact Points of Codex members and observers may login to the OCS and access the document open for comments by selecting "Enter" in the "My reviews" page, available after login to the system.
8. Contact Points of Codex members and observers organizations are requested to provide proposed changes and relevant comments/justifications on a specific paragraph (under the categories: editorial, substantive, technical and translation) and/or at the document level (general comments).
9. At the end of the commenting period, the host country secretariat (Malaysia) will compile comments in a relevant working document using the system.
10. Additional guidance on the OCS can be found on the Codex website: <http://www.fao.org/fao-who-codexalimentarius/ocs/en/>.
11. For questions on the OCS, please contact Codex-OCS@fao.org.

¹ REP 15/FO, para 90

**Proposed revision to the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999),
Addition of Palm Oil with High Oleic Acid (OxG)
(At Step 3)**

New texts added are shown in **bold/underlined** Font. Deletions are shown in ~~strike through~~ Font

2. DESCRIPTION

2.1 Product definitions

(Note: synonyms are in brackets immediately following the name of the oil)

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

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

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

Table 1: Fatty acid composition of vegetable oils as determined by gas liquid chromatography from authentic samples ¹ (expressed as percentage of total fatty acids) (see Section 3.1 of the Standard)

Fatty acid	<u>Palm oil high oleic acid</u>
C6:0	<u>ND</u>
C8:0	<u>ND</u>
C10:0	<u>ND</u>
C12:0	<u>ND – 0.4</u>
C14:0	<u>ND – 0.7</u>
C16:0	<u>25.0– 34.0</u>
C16:1	<u>ND – 0.8</u>
C17:0	<u>ND</u>
C17:1	<u>ND</u>
C18:0	<u>2.0 – 3.8</u>
C18:1	<u>48.0 – 58.0</u>
C18:2	<u>10.0 – 14.0</u>
C18:3	<u>ND – 0.6</u>
C20:0	<u>ND – 0.4</u>
C20:1	<u>ND</u>
C20:2	<u>ND</u>
C22:0	<u>ND</u>
C22:1	<u>ND</u>
C22:2	<u>ND</u>
C24:0	<u>ND</u>
C24:1	<u>ND</u>

ND - non detectable, defined as $\leq 0.05\%$

¹ Data taken from species listed in Section 2.

Table 2: Chemical and physical characteristics of crude vegetable oils (see Appendix of the Standard)

	<u>Palm oil high oleic acid</u>
Relative density (x °C/water at 20°C)	<u>0.8957-0.910 (50 °C/water a 20 °C)</u>
Apparent density (g/ml)	<u>ND</u>
Refractive index (ND 40°C)	<u>1.459-1.462</u>
Saponification value (mg KOH/g oil)	<u>189-199</u>
Iodine value	<u>60-72</u>
Unsaponifiable matter (g/kg)	<u>≤12</u>
Stable carbon isotope ratio *	<u>-</u>

* For the method see the following publications:

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

Table 3: Levels of desmethylsterols in crude vegetable oils from authentic samples¹ as a percentage of total sterols (see Appendix of the Standard)

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

ND - Non-detectable, defined as ≤ 0.05%

¹ Data taken from species listed in Section 2.

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

	<u>Palm oil high oleic acid</u>
Alpha-tocopherol	<u>128 - 152</u>
Beta-tocopherol	<u>ND</u>
Gamma-tocopherol	<u>4 - 138</u>
Delta-tocopherol	<u>0 - 31</u>
Alpha-tocotrienol	<u>165 - 179</u>
Gamma-tocotrienol	<u>475 - 586</u>
Delta-tocotrienol	<u>35 - 61</u>
Total (mg/kg)	<u>678 - 956</u>

ND - Non-detectable

¹ Data taken from species listed in Section 2.