

CODEX ALIMENTARIUS COMMISSION



Food and Agriculture
Organization of the
United Nations



World Health
Organization

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CL 2024/38-FO
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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 information on the method for the determination of gamma oryzanol in rice bran oil in the Standard for Named Vegetable Oils (CXS 210-1999)

DEADLINE: 28 February 2025

BACKGROUND:

The 28th Session of the Codex Committee on Fats and Oils (CCFO28) agreed to defer discussions on the method for the determination of gamma oryzanol in rice bran oil transcribed in the *Standard for Named Vegetable Oils* (CXS 210-1999) to CCFO29; and to request the Codex Secretariat to issue a Circular Letter (CL) to collect information on whether the method for the determination of gamma oryzanol in rice bran oil transcribed in CXS 210-1999 was still “fit for purpose” and should be included in the *Recommended Methods of Analysis and Sampling* (CXS 234-1999); and if there was alternative method(s) that could be proposed for endorsement by CCMAS and inclusion in CXS 234-1999 (See [REP24/FO paragraph 15 \(ii\)](#)).

REQUEST FOR COMMENTS

1. Codex members and observers are invited to review the method for the determination of gamma oryzanol in rice bran oil transcribed in the Appendix, Section 5 of CXS 210-1999 and provide comments on the following:
 - a. Whether the method for the determination of gamma oryzanol in rice bran oil (See attached Annex) was still “fit for purpose” and should be included in CXS 234-1999.
 - b. If there was an alternative method(s) to the above stated method that could be proposed for endorsement by CCMAS and inclusion in CXS 234-1999
2. Comments should be submitted via Codex Online Commenting System (OCS): <https://ocs.codexalimentarius.org/>, as per the general guidance below.

GENERAL GUIDANCE FOR THE PROVISION OF COMMENTS

3. Comments should be submitted through the Codex Contact Points of Codex members and observers using the OCS.
4. 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.
5. 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).
6. At the end of the commenting period, the EWG host country (Malaysia) will compile comments in a relevant working document using the system.
7. Additional guidance on the OCS can be found on the Codex website: <http://www.fao.org/fao-who-codexalimentarius/ocs/en/>.
8. For questions on the OCS, please contact Codex-OCS@fao.org.

5. METHODS OF ANALYSIS AND SAMPLING

Determination of gamma oryzanol content

Definition

This method is used to determine gamma oryzanol content (percentage) in oils from spectrophotometer absorption measurements at the wavelength of maximum absorption near 315 nm.

Scope

Applicable to crude rice bran oil.

Apparatus

- Spectrophotometer – for measuring extinction in the ultraviolet between 310 and 320 nm.
- Rectangular quartz cuvettes – having an optical light path of 1 cm.
- Volumetric flask – 25 ml.
- Filter paper – Whatman no.2, or equivalent.

Reagents

- n-Heptane – Spectrophotometrically pure.

Procedure

- (i) Before using, the spectrophotometer should be properly adjusted to a zero-reading filling both the sample cuvette and the reference cuvette with n-Heptane.
- (ii) Filter the oil sample through filter paper at ambient temperature.
- (iii) Weigh accurately approximately 0.02 g of the sample so prepared into a 25 ml volumetric flask, make up to the mark with n-Heptane.
- (iv) Fill a cuvette with the solution obtained and measure the extinction at the wavelength of maximum absorption near 315 m, using the same solvent as a reference.
- (v) The extinction values recorded must lie within the range 0.3–0.6. If not, the measurements must be repeated using more concentrated or more diluted solutions as appropriate.

Calculation

Calculate gamma oryzanol content as follows:

$$\text{Gamma oryzanol content, \%} = 25 \times (1 / W) \times A \times (1 / E)$$

Where W = mass of sample, g

A = extinction (absorbance) of the solution

E = specific extinction $E^{1\%}_{1\text{cm}} = 359$