



## 46th Joint Coordination Meeting of Arab and CCNE Codex Contact Points

**PREPARATION FOR THE 45<sup>th</sup> SESSION OF THE  
CODEX ALIMENTARIUS COMMITTEE ON METHODS OF  
ANALYSIS AND SAMPLING (CCMAS45)**

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**Agenda Item 4.1:**

***Review of Methods of Analysis in Commodity Standards (Fish and Fishery Products, Fats and Oils, Cereals, Pulses and Legumes and Derived Products)***

**Document Number: CX/MAS 26/45/4**

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# ***Introduction***

- ***This document addresses the review and alignment of methods of analysis related to:***
  - ***Fish and Fishery Products***
  - ***Fats and Oils***
  - ***Cereals, Pulses and Legumes and Derived Products***
- ***The review has been undertaken to ensure consistency with the General Standard for Methods of Analysis and Sampling CXS 234-1999.***
- ***The objective of this exercise is to strengthen scientific integrity, improve regulatory clarity, and enhance international harmonization of analytical methods referenced in Codex commodity standards.***

# Background

- **Codex commodity standards frequently contain numerical provisions (e.g., moisture limits, fat content, peroxide value, impurities). However, for these provisions to be enforceable, they must be supported by internationally validated analytical methods.**
- **Over time, discrepancies have emerged due to:**
  - **Outdated or obsolete analytical references**
  - **Duplication of methods**
  - **Inconsistencies between commodity standards and CXS 234**
  - **Provisions lacking internationally validated methods**
- **To address these issues, a structured review was conducted through an Electronic Working Group (EWG), resulting in the preparation of Annexes outlining:**
  - **Proposed amendments and deletions**
  - **Confirmation of existing methods**
  - **Identification of analytical gaps**
- **This review ensures that Codex standards remain scientifically robust and practically applicable in official control laboratories.**

# ***Analysis***

## ***Annex I***

### ***Proposed Amendments to CXS 234-1999***

- ***This Annex constitutes the operational core of the proposed revisions to CXS 234-1999.***
- ***It includes additions, deletions, and technical updates concerning methods related to:***
- ***Fish and Fishery Products***
- ***Fats and Oils***
- ***Cereals, Pulses and Legumes***

# ***Fish and Fishery Products***

## *➤ Proposed Amendments*

### *Inclusion of updated methods for:*

- *Moisture determination*
- *Protein (Total Nitrogen – Kjeldahl method)*
- *Total fat*
- *Peroxide value (for fatty fish products)*

### *Updating ISO/AOAC references to the latest available editions*

### *Harmonization between commodity standards and CXS 234 structure*

#### *➤ Deletions*

- *Removal of obsolete references no longer internationally valid*
- *Elimination of duplicated methods already listed in CXS 234*

## *➤ Technical Analysis*

### *The objective is to:*

- *Ensure international harmonization*
- *Improve consistency between countries*
- *Enhance applicability in accredited laboratories*

## *➤ Technical Recommendation*

- *All fish-related methods should be matrix-specific and, where possible, based on performance criteria rather than being restricted to specific equipment configurations.*

# Fats and Oils

## ➤ Proposed Amendments

- **Confirmation and alignment of methods for:**
  - Acid value
  - Peroxide value
  - Iodine value
  - Soap content
- **Retention of ISO 10539 / AOCS Cc 17-95 for soap determination**
- **Correction of reference alignment within CXS 234**

## Deletions

- **Removal of outdated analytical methods**
- **Elimination of duplications between ISO and AOCS where equivalent**

## ➤ Technical Analysis

- **The fats and oils sector is highly sensitive in international trade (oxidation, fraud detection, quality control).**
- **The amendments aim to:**
  - **Improve reliability of oxidation indicators**
  - **Strengthen quality verification**
  - **Reduce interpretational discrepancies between countries**

## ➤ Recommendation

- **Maintain methodological flexibility (e.g., detector types in chromatographic methods) provided scientific equivalence is demonstrated.**

# *Cereals, Pulses and Legumes*

## ➤ *Particularly related to:*

- *CXS 200-1995*  
*CXS 201-1995*

## ➤ *Proposed Amendments*

- *Attempts to introduce validated moisture and impurity methods*
- *Review of provisions previously marked as “Under development”*

## ➤ *Deletions*

- *Exclusion of nationally developed methods lacking international validation*
- *Avoidance of non-harmonized references*

## ➤ *Technical Issue Identified*

- *Certain provisions contain numerical limits but lack internationally validated analytical methods.*
- *This creates a regulatory gap.*

## ➤ *Recommendation*

- *Encourage Standard Developing Organizations (SDOs) to develop validated methods*
- *Require inter-laboratory validation before endorsement*

# **Annex II**

## **Methods Already Included in CXS 234**

***This Annex confirms that certain analytical methods are already endorsed and require no modification.***

### ***Implications per Commodity***

- ***Fish Products***

***Protein and moisture methods remain valid.***

- ***Fats and Oils***

***Acid value and peroxide value methods remain stable and internationally recognized.***

- ***Cereals***

***Some moisture determination methods are already established.***

### ***Recommendation***

- ***Periodic reference verification should ensure alignment with the latest ISO/AOAC editions, without reopening technically stable methods.***

# Annex III

## Provisions Without Validated Methods

- *This Annex is strategically significant.*

### **Content**

- *Provisions in peanuts and oats standards*
- *No internationally validated analytical methods currently available*

### **Risks Identified**

- *Inconsistent results across countries*
- *Enforcement difficulties*
- *Potential trade disputes*
- *Reduced credibility of the commodity standard*

### **Technical Analysis**

- *A regulatory requirement without a validated measurement method undermines enforceability.*

### **Strong Recommendations**

- *Prioritize development of validated methods for peanuts.*
- *Establish a timeline for oat-specific method development.*
- *Avoid maintaining “Under development” provisions indefinitely.*
- *Apply performance-based criteria in future method development.*

# ***Electronic Database Proposal***

***A proposal was introduced to display analytical methods per commodity rather than grouped by analytical category.***

## ***Benefits***

- ***Improved clarity***
- ***Easier searchability***
- ***Reduced risk of misapplication***
- ***Better integration with digital laboratory systems (e.g., LIMS)***

# ***Technical Conclusion***

***The Annexes collectively aim to strengthen scientific robustness, regulatory coherence, and international harmonization.***

- ❖ Annex I enhances structural alignment.***
- ❖ Annex II ensures continuity of validated methods.***
- ❖ Annex III highlights critical analytical gaps requiring urgent development.***

***Addressing these gaps is essential to preserve the credibility and enforceability of Codex commodity standards.***

- **Based on the technical review of the Annexes, the following recommendations are proposed:**

### **1. Adoption of Proposed Amendments (Annex I)**

- **Adopt the proposed amendments to CXS 234-1999 as outlined in Annex I.**
- **Ensure that all referenced ISO/AOAC/AOCS methods reflect the latest available editions.**
- **Confirm alignment between commodity standards and CXS 234 to avoid inconsistencies.**

### **2. Confirmation of Existing Validated Methods (Annex II)**

- **Confirm that methods listed in Annex II remain technically valid.**
- **Avoid reopening stable, internationally validated methods without scientific justification.**
- **Encourage periodic reference updates to maintain regulatory relevance.**

### **3. Addressing Analytical Gaps (Annex III)**

- **Prioritize development of internationally validated methods for provisions currently lacking endorsed analytical procedures, particularly under:**
  - **CXS 200-1995**
  - **CXS 201-1995**
- **Encourage Standard Developing Organizations (SDOs) to initiate inter-laboratory validation studies.**
- **Establish a clear roadmap and timeline for method development.**
- **Avoid maintaining “Under development” provisions without measurable progress.**

# **Final Recommendations**

### **4. Promotion of Performance-Based Criteria**

- **Ensure that future method endorsements are performance-based.**
- **Avoid unnecessary technical restrictions (e.g., specific detector types) where scientifically equivalent alternatives exist.**
- **Promote flexibility for accredited laboratories while maintaining analytical integrity.**

### **5. Electronic Database Improvement**

- **Displaying analytical methods per commodity in the future electronic version of CXS 234.**
- **Enhancing searchability and clarity for regulatory authorities and control laboratories.**
- **Supporting digital integration with laboratory information management systems (LIMS).**

# Closing Statement

Strengthening analytical clarity today ensures  
regulatory credibility tomorrow.

Addressing current gaps will reinforce the global  
trust placed in Codex commodity standards

