Under the leadership of the Chair of
FAO/WHO CODEX COORDINATING COMMITTEE
CCASIA FAO/WHO Coordinating Committee for ASIA

OUTCOMES OF THE 44th SESSION OF THE CODEX COMMITTEE ON METHODS OF ANALYSIS AND SAMPLING

(CCMAS44)

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CCMAS44

Codex Committee on Methods of Analysis and Sampling
05/05/2025 - 14/05/2025 | Virtual,

44th Session of CCMAS

- **Format**: Virtual meeting
- **Dates**: 5–8 May and 14 May 2025
- **Host country:** Hungary

Participation

74 Member countries
1 Member organization (EU)
21 Observer organizations

Brunei, China, India, Indonesia, Japan, Korea, Malaysia, Maldives, Philippines, Singapore, Sri Lanka, Thailand, Vietnam

Agenda Item 3-9

3. Endorsement of methods of analysis provisions and sampling plans in Codex standards:

3.1 Methods of analysis and sampling submitted by Codex subsidiary bodies;

4. Matters pending from CCMAS43:

4.1 Methods of analysis for protein in quinoa;

4.2 Determination of moisture content in whey powder.

5. Review of methods of analysis in CXS 234:

5.1 Fruit juices workable package;

5.2 Cocoa products and chocolate workable package.

6. Sampling plans:

6.1 Information document: General guidelines on sampling (CXG 50-2004) - e-book with sampling plans applications;

6.2 Review of sampling plans in CXS 234.

7. Numeric performance criteria for the determination of nitrate and nitrite ions in food matrices;

8. Methods of analysis for precautionary allergen labelling;

9. Harmonization of names and format for principles identified in CXS 234.

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Agenda Item 3

Endorsement of Methods of Analysis Provisions and Sampling Plans in Codex Standards

Methods of Analysis and Sampling Submitted by Codex Subsidiary Bodies

Codex Committee	Food Commodity	Analyte(s)	Decision
CCFFP36	Fish sauce	Amino Acid Nitrogen	Retain methods AOAC 920.04 and AOAC 920.03, in CXS 234-1999
CCAFRICA25	Dried meat	Chloride	Endorse AOAC 935.47 and AOAC 937.09B as Type III methods
CCFA55	Food grade salt	Sodium Chloride	Method and sampling plan transferred with editorial amendments to CXS 234-1999

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Agenda Item 3 - *Continued*
Methods of Analysis and Sampling Submitted by Codex Subsidiary Bodies

The following methods submitted by **CCNFSDU44** were sent to CAC48 for:

<u>adoption or revocation or re-typing</u>

- Methods of analysis for dietary fibre: Guidelines for use of nutrition and health claims (CXG23-1997): Table of conditions for claims.
- Methods for provisions in follow-up formula (CXS 156-1987, Section A) and infant formula (CXS 72-1981, Section A).
- Measurement of crude protein in Follow-up formula (nitrogen to protein conversion factors).

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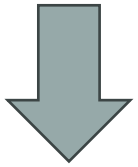
Agenda Item 3 - *Continued*

Other Relevant Matters Arising from the Amendment of CXS 234-1999

CXS 234-1999 is the single reference for methods of analysis in Codex standards



CCMAS44 requested the Codex Secretariat to amend relevant commodity standards by replacing the methods of analysis with the general reference to CXS 234-1999 as per the Procedural Manual.

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Agenda Item 4.1. Methods of Analysis for Protein in Quinoa

Method ISO 1871
Determination of Nitrogen by the Kjeldahl Method

ISO 1871 was endorsed by CCMAS43 **as a Type IV method.**
It gives **general guidance** for the determination of protein according to the Kjeldahl principles and **does not offer validation data**.

- **Option 1**: Elaboration of a standard for determination of protein by the principles described in ISO 1871
- **Option 2**: The scope of ISO 20483 Cereals and pulses — Determination of the nitrogen content and calculation of the crude protein content — Kjeldahl method could be extended to quinoa.
- **Option 3**: Describing the validated method for the determination of protein in quinoa in an Annex to CXS 234.

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Agenda Item 4.1 - *Continued*

Method ISO 1871
Determination of Nitrogen by the Kjeldahl Method

CCMAS44 agreed to:

i. retain the ISO 1871 method for determining protein in quinoa in CXS 234-1999 as **a Type IV method**, and

ii. request the PWG on endorsement to **reconsider the retyping of the ISO 1871 method for determining protein in quinoa based on the information provided to CCMAS44.**

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Agenda Item 4.2

Determination of Moisture Content in Whey Powder

CXS 234-1999 58

Milk and milk products

Commodity	*Provisions*	*Method*	*Principle*	*Type*
Whey powders	Ash	ISO 5545 | IDF 90	Gravimetry (ashing at 825 M °C)	IV
Whey powders	Lactose	ISO 5765-1/2 | IDF 79-1/2	Enzymatic method: Part 1– Glucose moiety or Part 2– Galactose moiety	II
Whey powders	Milkfat	ISO 23318 | IDF 249	Gravimetry (Röse-Gottlieb)	I
Whey powders	Milk protein	ISO 8968-1 | IDF 20-1	Titrimetry (Kjeldahl)	I
Whey powders	Water[xlii] (moisture)	ISO 5537 | IDF 26	Gravimetry (drying at 87 °C)	I

INTERNATIONAL STANDARD **ISO 5537:2004(E)**
IDF 26:2004(E)

Dried milk — Determination of moisture content (Reference method)

Proposal to endorse the 102°C method as Type IV for whey powders, and with explanatory notes on use conditions as footnotes in CXS 234-1999.

Proposed Note "Due to accessibility to equipment and calibration of the method ISO 5537 | IDF 26, the method as described in Appendix III is listed as Type IV".

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Agenda Item 4.2 - *Continued*

CCMAS44 agreed to forward the 102NP method with the following footnote to CAC48 for **adoption as a Type IV method.**

Alternative footnote

In particular for powders with high natural lactose content such as whey powders, the CXS 234 Appendix XI – Moisture method at normal pressure (102+2ºC) has been exceptionally included as a co-existing Type IV method ***despite performance showing poorer precision and results which may not be consistent with those obtained with ISO 5537 | IDF 26*** *to take into account practical matters of* ***limited accessibility to equipment and calibration of the Type I method****. In a dispute situation the Type I method shall be used.*

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Agenda Item 5

Review of Methods of Analysis in CXS 234

5.1. Fruit Juices Workable Package

5.2. Cocoa Products and Chocolate Workable Package

The work of the review of methods in CXS 234-1999 was to remove inconsistencies, make editorial corrections, check if the methods are still fit for purpose and to look at the typing.

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CCMAS44 agreed to:

- forward the analytical methods for **fruit juices and nectars / cocoa products and chocolate** to CAC48 for endorsement or revocation, and

- re-establish the EWG chaired by Serbia and co-chaired by USA to continue reviewing the relevant methods in the cocoa products and chocolate workable package.

- establish an EWG chaired by Uruguay to **review the sugars and honey workable package**.

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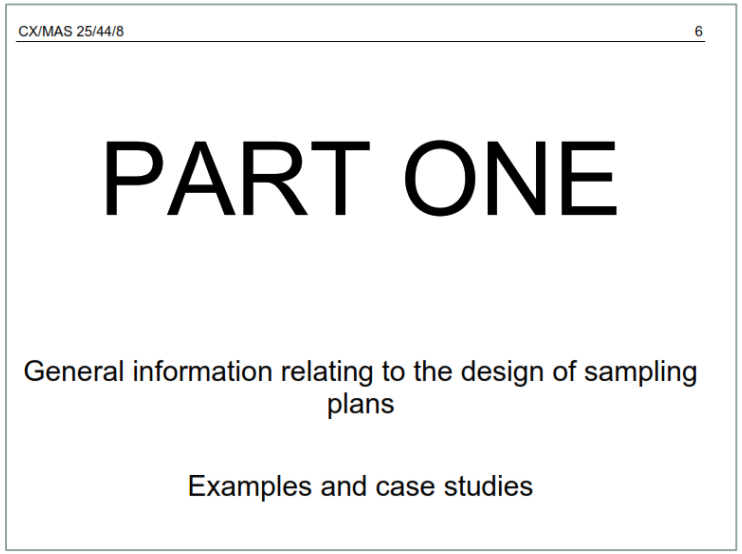
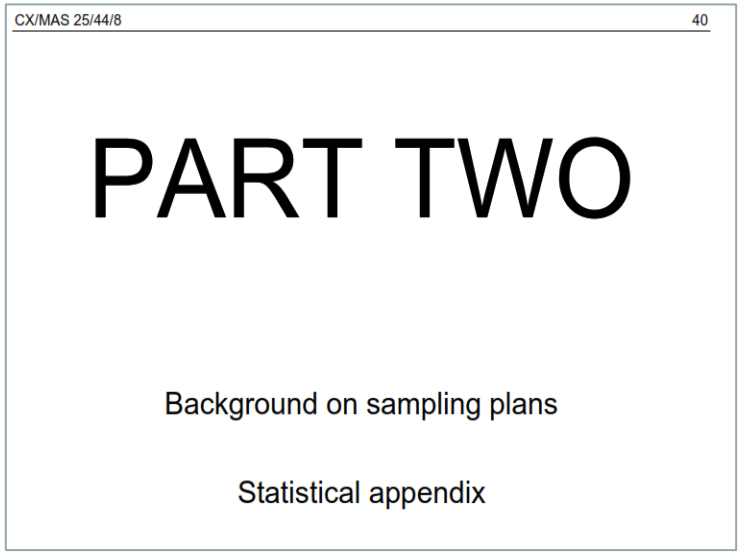
Agenda Item 6.1
Information Document: General Guidelines on Sampling (CXG 50–2004)
e-book with Sampling Plans Applications

CMAS44 agreed to publish the information document as revised and to inform Codex committees of the publication of this document.





*Information documents **do not go through the Step Procedure**, ….. remain available for internal use by the Committee or for public consultation on the Codex webpage **following agreement by the Committee**.*

Agenda Item 6.2. DISCUSSION PAPER
Review of Sampling Plans in CXS 234

CCMAS44:

i. agreed to **continue developing the discussion paper** on:

a. the review of sampling plans in CXS 234-1999 (location if sampling plans in the standard(s), format and content of their presentation, and parameters to select an appropriate sampling plan for a given commodity/provision combination

b. the development of sampling plans for bulk materials/heterogenous lots, including mycotoxins.

ii. noted the need for close collaboration with CCCF (sampling plans for mycotoxins); and CCMAS to provide support to commodity committees in their review of sampling plans.

Re-establish the EWG, chaired by New Zealand and co-chaired by Germany.

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Appendix 1: Numeric performance criteria for the adopted MLs

Food Additive	Subcategory for which value was provided	Adopted Maximum Levels (CXS 192-1995)*	Calculated method performance criteria based on Maximum level (mg/kg)					
			Min Appl. Range (mg/kg)	LOD (mg/kg)	LOQ (mg/kg)	Precision (RSD_R (%))	Recovery (%)	Examples of applicable methods that meet the criteria
01.6 (*Cheese and analogues)*								
Nitrate	01.6.2 *(Ripened cheese)*	35 mg/kg as residual NO_3 ion.	25.2 - 44.8	3.5	7	18.7	80 – 110	**Multi-laboratory validation** - ISO 14673-3 I IDF 189-3: 2004 **Single-laboratory validation -** ISO 14673-2 I IDF 189-2: 2004^
08.0 (*Me at and meat products, including poultry and game)*								
Nitrite	08.2.2 (Heat-treated processed meat, poultry, and game products in whole pieces or cuts/)	80 mg/kg as residual NO_2 ion.	100 - 160	13	26	15.4	90 – 107	**Multi-laboratory validation** - AOAC Method 973.31; NMKL 165: 2000 Ed.; **Single-laboratory validation** - Afanda et al., (2025); Iammarino et al. 2013; Ferreira et al. (2008) for Ham; Siu et al., 1998 for Salami and Ham
Nitrite	08.3 (Processed comminuted meat, poultry, and game products)	80 mg/kg as residual NO_2 ion.	100 - 160	13	26	15.4	90 – 107	**Multi-laboratory validation** - AOAC Method 973.31; NMKL 165: 2000 Ed.; **Single-laboratory validation** - Afanda et al., (2025); Iammarino et al., 2013; Ferreira et al., (2008) for Ham; Siu et al., 1998 for Salami and Ham

Agenda Item 7

Numeric Performance Criteria for the Determination of Nitrate and Nitrite ions in Food Matrices

CCMAS44 agreed to forward the NPC for nitrate and nitrite in specified food matrices for adoption by CAC48.

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Agenda Item 8

Methods of Analysis for Precautionary Allergen Labelling

CCFL47 requested CCMAS to:

Recommend suitable analytical methods and guidance on their validation and applications including sampling plans for determining allergens in foods, in particular:

The methods should detect and quantify unintended allergen presence (UAP) in foods from cross contact with detection and quantification limits (LOD and LOQ) suitable to determine if UAP is above or below the action levels established by the FAO/WHO Expert Consultation for priority allergens for intakes of foods.

The analytical methods and sampling plans are needed to enable food business operators to do risk assessment to determine if UAP can be controlled below the specified action level for each allergenic food.

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Agenda Item 8 - *Continued*

The priority allergens agreed on by CCFL and adopted in the revision of the General Standard for the Labelling of Prepackaged Foods (CXS 1-1985) are as follows:

- *Cereals containing gluten (wheat and other Triticum species, rye and other Secale species, barley and other Hordeum species)*
- *Crustacea*
- *Eggs*
- *Fish*
- *Peanuts*
- *Milk*
- *Sesame*
- *Specific tree nuts (Almond, Cashew, Hazelnut, Pecan, Pistachio, Walnut)*

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Agenda Item 8 - *Continued*

More than 100 sets of method validation data were submitted for evaluation against the following method development, validation and performance guidelines:

- AOAC Appendix M
- EN 17855 (ELISA)
- EN 17644 (LC-MS)
- EN 17254 (ELISA Gluten)
- EN 15634 (PCR)

A	B	C	D	E
Allergen	Method Title	Principle	Analyte	Conversion Factor
Almond	RIDASCREEN R FAST Mandel/Almond (R609)	ELISA	Almond protein	0.23
Almond	RIDASCREEN R FAST Mandel/Almond (R609)	ELISA	Almond protein	0.23
Cashew	BIOFRONT MONOTRACE CASHEW (CA2-EK-96)	ELISA	Cashew	
Cashew	RIDASCREEN® FAS Cashew R6872	ELISA	cashew	
Cashew	BioFront Technologies - MonoTrace Cashew ELISA kit	ELISA	cashew	Based on median 17.4g protein/100g, source https://fdc.nal.usda.gov/food-details/2515374/nutrients downloaded 250217RJC
Cashew	Cashew Protein ELISA Kit (E96CHW)	ELISA	cashew	
Cashew	SENSISpec ELISA Cashew	ELISA	Cashew	Based on median 17.4g protein/100g, source https://fdc.nal.usda.gov/food-details/2515374/nutrients downloaded 250217RJC
Coconut	AOAC PTM 061903: Coconut Protein Rapid Kit (Neogen)	Immunochromatographic test	Coconut proteins	
Crustacea	AgraQuant Crustacea ELISA test kit (10002076)	ELISA	Tropomyosin	
Crustacea	ELISA Systems Crustacean Tropomyosin Residue Assay	ELISA	Tropomyosin	Tropomyosin conversion to Total Protein too variable as heavily dependent on crustacean source

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Agenda Item 8 - *Continued*

CCMAS44 agreed to re-establish an EWG chaired by USA and co-chaired by UK to:

- finalize review of the methods in CX/MAS 25/44/11 against the available validation guidelines and performance requirements.

- develop a draft response for consideration by CCMAS45 to CCFL49.

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Agenda Item 9

Harmonization of Names and Format for Principles Identified in CXS 234

Terms of Reference of EWG

- Definitions for descriptions of analytical methods;
- Harmonized names and format for principles and provision names in CXS 234-1999; and
- Prepare a revised CXS 234-1999 presenting the proposed harmonized principles and provision names.

CCMAS44 agreed to re-establish the EWG, chaired by Brazil and co-chaired by Chile, to further revise the “Harmonization of Names for Principles in CXS 234-1999”

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DATE AND PLACE OF NEXT SESSION (Agenda item 12)

CCMAS44 was informed that its 45th Session was tentatively scheduled to take place from 9-13 March 2026 in Budapest, Hungary, with the final arrangements subject to confirmation by the Host Country in consultation with the Codex Secretariat.

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mahalo
tapadh leat
спасибо
faafetai lava
vinaka
blagodaram
dank je
misaotra
paldies
grazzi
спасибі
matondo
thank you
gracias
хвала
kiitos
dankie
nanni
nandri
dhanyavad
mauruuru
köszönöm
asante
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bedankt
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mercé
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merci
তোমাকে ধন্যবাদ
감사합니다
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