

codex alimentarius commission



FOOD AND AGRICULTURE
ORGANIZATION
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WORLD
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Agenda Item 8

CX/MAS 04/9-Add.1

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON METHODS OF ANALYSIS AND SAMPLING

Twenty-fifth Session

Budapest, Hungary, 8 – 12 March 2004

ENDORSEMENT OF METHODS OF ANALYSIS PROVISIONS IN CODEX STANDARDS

This document contains the methods of analysis proposed by the Committee on Nutrition and Foods for Special Dietary Uses and the proposed updates of methods of analysis for additives and contaminants.

A. CODEX COMMITTEE ON NUTRITION AND FOODS FOR SPECIAL DIETARY USES¹

Draft Revised Standard for Gluten-Free Foods (At Step 7)

COMMODITY	PROVISION	METHOD	PRINCIPLE	NOTE
Gluten-free foods	Gluten	ELISA Method	Immunoassay	see below

6. GENERAL OUTLINE OF THE METHOD OF ANALYSIS AND SAMPLING

6.1 Determination of gluten

Enzyme-Linked Immunoassay R5 Mendez (ELISA) Method

6.2 Determination of gluten in foodstuffs and ingredients

Methods used for determination should be traceable and calibrated against an internationally accepted standard, if available.

The detection limit has to be appropriate according to the state of the art and the technical standard.

The quantitative determination of gluten in foodstuffs and ingredients shall be based on an immunologic method.

The antibody to be used should react with the cereals that are toxic for persons sensitive to gluten and should not cross-react with the other cereals or other constituents of the foodstuffs and ingredients.

The qualitative analysis as indicating presence of protein shall be based on DNA-methods or other relevant methods.

The detection limit of the method should be at least 10 ppm in the product on a dry matter basis.

¹ ALINORM 04/27/26, paras. 27-35 and Appendix III. The provision in the Draft Standard is as follows:

3.1 Gluten-free

For the purpose of this standard "gluten-free" means that the total content of gluten in products defined in 2.1a) shall not exceed [20 ppm], that the total content of gluten from wheat, rye, barley, [oats] or crossbred varieties of these does not exceed [200 ppm] in these foodstuffs or ingredients defined in 2.1 b) and c) on a dry matter basis. The prolamin content of liquid food products is in the same way expressed in ppm of the original product.

B. METHODS OF ANALYSIS FOR ADDITIVES AND CONTAMINANTS

1. CONTAMINANTS

The 23rd Session of the CCMAS endorsed the following methods for lead, cadmium, copper, iron and zinc, that were subsequently adopted by the 24th Session of the Commission.

COMMODITY	PROVISION	METHOD	PRINCIPLE	TYPE
All foods	Lead, cadmium, copper, iron and zinc	NMKL 139 (1991) AOAC 999.11	AAS after dry ashing	II
All foods	Lead, cadmium, copper, iron and zinc	NMKL 161 (1998) AOAC 991.10	AAS after microwave digestion	III

Some current methods for contaminants require further consideration in view of this decision, as listed below. The Committee is invited to consider whether the current **methods for cadmium, copper, lead and zinc** should be retained.

The Committee is also invited to consider the deletion of the **method for nickel in fats and oils** as no relevant provisions exist in the standards for fats and oils.

COMMODITY	PROVISION	METHOD	PRINCIPLE	Type	Note
All foods	Cadmium	AOAC 986.15	Anodic stripping voltammetry	III	Other Type III method adopted in 2001 (see above)
All foods	Copper	AOAC 960.40	Colorimetry (diethyldithiocarbamate)	III	Other Type III method adopted in 2001 (see above)
All foods	Lead	AOAC 972.25	Atomic absorption spectrophotometry	II	Other Type II method adopted in 2001 (see above)
All foods except fats and oils	Lead	AOAC 982.23	Anodic stripping voltammetry	III	Other Type III method adopted in 2001 (see above)
All foods	Lead	AOAC 986.15	Anodic stripping voltammetry	III	Other Type II method adopted in 2001 (see above)
All foods	Zinc	AOAC 969.32	Atomic absorption spectrophotometry	II	Other Type II method adopted in 2001 (see above)
All foods	Zinc	AOAC 986.15	Atomic absorption spectrophotometry	III	Other Type III method adopted in 2001 (see above)

COMMODITY	PROVISION	METHOD	PRINCIPLE	Type	Note
Fats and oils	Nickel	IUPAC 2.631 AOAC 990.05 ISO 8294:1994	Atomic absorption spectrometry (direct graphite furnace)	II	Consider deletion as no provisions exist

2. ADDITIVES

As the methods for nitrates and nitrites in meat products were temporarily endorsed at the last session, the Committee is invited to consider whether to endorse them permanently if updated information is available.

The Committee is also invited to consider:

- deleting the reference to *nordihydroguaiaretic acid* in fats and oils as there are no provisions for this additive.
- deleting the method for saccharin in beverages and sweets as no provisions exist. Levels of use for saccharin and other sweeteners have been adopted only for chocolate and cocoa products.

COMMODITY	PROVISION	METHOD	PRINCIPLE	Type	Note
Meat Products	Nitrates and/or Nitrites	ENV 12014-3:1998-06 Part 3	Spectrometric determination of nitrate and nitrite content of meat products after enzymatic reduction of nitrate to nitrite	III ²	TE by CCMAS 24
Meat Products	Nitrates and/or Nitrites	ENV 12014-4:1998-06 Part 4 NMKL 165 (2000)	Ion-exchange chromatographic method	III	TE by CCMAS 24
Beverages and sweets	Saccharin	NMKL 122 (1987)	Liquid chromatography	II	Consider deletion as no provisions exist
<i>Fats and oils</i>	<i>Butylhydroxyanisole, butylhydroxytoluene, tert-butylhydroquinone, nordihydroguaiaretic acid & propyl gallate</i>	AOAC 983.15	Liquid chromatography	II	<i>Consider deletion of nordihydroguaiaretic acid as no provision exist</i>

² Current methods for nitrites are AOAC 973.31 as Type II and ISO 2918.1975 as Type IV (To be re-validated and updated next year)