

# CODEX ALIMENTARIUS COMMISSION

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Food and Agriculture  
Organization of the  
United Nations



World Health  
Organization

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Agenda item 15

CX/CF 25/18/16

March 2025

## JOINT FAO/WHO FOOD STANDARDS PROGRAMME

### CODEX COMMITTEE ON CONTAMINANTS IN FOODS

Eighteenth Session

23-27 June 2025

Bangkok, Thailand

#### REVIEW OF NUMERIC PERFORMANCE CRITERIA FOR METHODS OF ANALYSIS FOR TOTAL AFLATOXINS UTILIZING THE SUM OF COMPONENTS CONCEPT IN RELEVANT SAMPLING PLANS

(Prepared by Brazil)

Codex members and observers wishing to submit comments on the numeric performance criteria for methods of analysis for total aflatoxins utilizing the sum of components concept in relevant sampling plans should do so as instructed in CL 2025/15-CF, available on the Codex webpage<sup>1</sup>

#### BACKGROUND

1. The 16th Session of the Codex Committee on Contaminants in Foods (CCCF16, 2024 ) considered the request<sup>2</sup> from the 42nd Session of the Codex Committee on Methods of Analysis and Sampling (CCMAS42, 2023) on sampling plans in the *General standard for contaminants in food and feed* (CXS 193-1995), specifically to provide numeric performance criteria for aflatoxin methods utilizing the sum of components concept for all relevant commodities to replace the existing numeric criteria, and to evaluate all sampling plans in CXS 193, to determine if the plans were still in line with the revised *General guidelines on sampling* (CXG 50-2004).<sup>3</sup>
2. Brazil volunteered to review the numeric performance criteria for aflatoxins in CXS 193 to submit proposals for consideration by CCCF18 (2025). This work does not include reviewing the sampling plans to determine whether they align with the revised General guidelines on sampling, which is still pending discussion in CCCF.
3. Considering that the approach for determining numeric performance criteria for methods of analysis contained in sampling plans for total aflatoxins in peanuts intended for further processing, in ready-to-eat treenuts and treenuts destined for further processing: almonds, hazelnuts, pistachios, and shelled Brazil nuts and, dried figs have a different approach than what was decided by CCMAS42 (Table 3, Appendix II, REP23/MAS42) and adopted<sup>4</sup> by the 46th Session of the Codex Alimentarius Commission (CAC46, 2023) for sampling plans for total aflatoxins for certain cereals and cereal-based products, including foods for infants and young children, CCCF is requested to consider the revised method performance criteria as detailed in the Appendix based on AFB1: AFB2:AFG1:AFG2 of 1:1:1:1.

<sup>1</sup> Codex webpage/Circular Letters:  
<http://www.fao.org/fao-who-codexalimentarius/resources/circular-letters/en/>.

Codex webpage/CCCF/Circular Letters:

<http://www.fao.org/fao-who-codexalimentarius/committees/committee/related-circular-letters/en/?committee=CCCF>

<sup>2</sup> REP23/MAS42, paras 34, 57(iv).

<sup>3</sup> REP24/CF17, paras. 11, 12, 13(iv)

<sup>4</sup> REP23/CAC46, para. 92(i), Appendix II

**RECOMMENDATIONS**

4. CCCF is invited to:

- (i) consider the revised method performance criteria as proposed in the Appendix for peanuts intended for further processing, ready-to-eat treenuts, and treenuts destined for further processing: almonds, hazelnuts, pistachios, and shelled Brazil nuts, and dried figs to replace the current method performance criteria in the respective samples plan in the *General standard for contaminants in food and feed* (CXS 193-1995); and
- (ii) submit these method performance criteria to CCMAS for endorsement and adoption by CAC48.

**Note:** once endorsed by CCMAS and submitted for adoption by CAC, the numeric performance criteria for methods of analysis in the aforementioned sampling plans will be replaced by a reference to the *Recommended methods of analysis and sampling* (CXS 234-1999), in which the numeric performance criteria will be housed.

**APPENDIX**  
**(For comments)**

Method performance criteria proposed for total aflatoxins in:

- Peanuts intended for further processing
- Ready-to-eat tree nuts and tree nuts destined for further processing: almonds, hazelnuts, pistachios, and shelled Brazil nuts
- Dried figs.

Commodity	Analyte	ML (µg/kg)	LOD (µg/kg)	LOQ (µg/kg)	Precision (%)	Minimal applicable range (µg/kg)	Recovery (%)
Peanuts intended for further processing	AF B1+B2+G1+G2	15	≤3	≤6	< 44	8.4 - 21.6	60 – 115
	AFB1	-	≤0.75	≤1.5	< 44	2.1 – 5.4	40-120
	AFB2	-	≤0.75	≤1.5	< 44	2.1 – 5.4	40-120
	AFG1	-	≤0.75	≤1.5	< 44	2.1 – 5.4	40-120
	AFG2	-	≤0.75	≤1.5	< 44	2.1 – 5.4	40-120
Treenuts destined for further processing: almonds, hazelnuts, pistachios, and shelled Brazil nuts	AF B1+B2+G1+G2	15	≤3	≤6	< 44	8.4 - 21.6	60 – 115
	AFB1	-	≤0.75	≤1.5	< 44	2.1 – 5.4	40-120
	AFB2	-	≤0.75	≤1.5	< 44	2.1 – 5.4	40-120
	AFG1	-	≤0.75	≤1.5	< 44	2.1 – 5.4	40-120
	AFG2	-	≤0.75	≤1.5	< 44	2.1 – 5.4	40-120
Ready-to-eat treenuts: almonds, hazelnuts, pistachios and shelled Brazil nuts	AF B1+B2+G1+G2	10	≤2	≤4	< 44	5.6 – 14.4	60-115
	AFB1	-	≤0.5	≤1.0	< 44	1.4 - 3.6	40-120
	AFB2	-	≤0.5	≤1.0	< 44	1.4 - 3.6	40-120
	AFG1	-	≤0.5	≤1.0	< 44	1.4 - 3.6	40-120
	AFG2	-	≤0.5	≤1.0	< 44	1.4 - 3.6	40-120
Dried figs	AF B1+B2+G1+G2	10	≤2	≤4	< 44	5.6 – 14.4	60-115
	AFB1	-	≤0.5	≤1.0	< 44	1.4 - 3.6	40-120
	AFB2	-	≤0.5	≤1.0	< 44	1.4 - 3.6	40-120
	AFG1	-	≤0.5	≤1.0	< 44	1.4 - 3.6	40-120
	AFG2	-	≤0.5	≤1.0	< 44	1.4 - 3.6	40-120