



Agenda Item 3

CX/MAS 14/35/3-Add.2

JOINT FAO/WHO FOOD STANDARDS PROGRAMME CODEX COMMITTEE ON METHODS OF ANALYSIS AND SAMPLING

Thirty-fifth Session
Budapest, Hungary, 3 - 7 March 2014

ENDORSEMENT OF METHODS OF ANALYSIS PROVISIONS IN CODEX STANDARDS

1. This document contains the methods of analysis and/or sampling proposed by the following Committees in draft standards and related texts under elaboration or as update of current methods:

PART I Methods of Analysis

A. Committee on Fish and Fishery Products

PART I METHODS OF ANALYSIS

A. 33RD SESSION OF THE COMMITTEE ON FISH AND FISHERY PRODUCTS (CCFFP)

Draft Performance Criteria for Reference and Confirmatory Methods for Marine Biotoxins (Section I-8.6 Determination of Biotoxins) in the Standard for Live and Raw Bivalve Molluscs¹

2. The Committee agreed to forward the proposed draft Section to the 37th Session of the Commission for adoption at Step 8 and to forward it to CCMAS for endorsement.

¹ REP14/FFP para. 23

A. COMMITTEE ON FISH AND FISHERY PRODUCTS

Proposed draft performance criteria for methods for the determination of marine biotoxins in the standard for live and raw bivalve molluscs

I-8.6 Determination of Biotoxins

The method selected should be chosen on the basis of practicability and preference should be given to methods which have applicability for routine use.

I-8.6.1 Criteria for determination of Toxin Analogues by chemical methods

Methods shall meet the numerical criteria listed in Table 1 and may either meet the minimum applicable range, or LOD and LOQ criteria listed.

The criteria in Table were calculated in accordance with procedural manual

1. STX group converted from AOAC 2005.06 (NMKL 182, EN 14526:2004) and AOAC 2011.02 (NMKL 197)
2. OA & AZA groups converted from European Union Reference Laboratory for Marine Biotoxins SOP 2011 (http://aesan.msssi.gob.es/en/CRLMB/web/procedimientos_crlmb/crlmb_standard_operating_procedures.shtml Harmonised-SOP-LCMS-OA-Version4.pdf)
3. DA calculated via method criteria
(for information purpose only)

Table. Criteria for determination of Toxin Analogues by Chemical Methods

Toxin Group	Toxin	Minimum applicable range (mg/kg)	LOD (mg/kg)	LOQ (mg/kg)	Precision (RSD _R)	Recovery percent
STX Group	Saxitoxin (STX)	0.05 – 0.2	0.01	0.02	≤44%	50 – 130%
	(NEO)	0.05 – 0.2	0.01	0.02	≤44%	50 – 130%
	(dcSTX)	0.05 – 0.2	0.01	0.02	≤44%	50 – 130%
	GTX1	0.05 – 0.2	0.01	0.02	≤44%	50 – 130%
	GTX2	0.1 – 0.5	0.03	0.06	≤38%	50– 130%
	GTX3	0.1 – 0.5	0.03	0.06	≤38%	50– 130%
	GTX4	0.05 – 0.2	0.01	0.02	≤44%	50 – 130%
	GTX5	0.1 – 0.5	0.03	0.06	≤38%	50– 130%
	GTX6	0.1 – 0.5	0.03	0.06	≤38%	50– 130%
	dcGTX2	0.1 – 0.5	0.03	0.06	≤38%	50– 130%
	dcGTX3	0.1 – 0.5	0.03	0.06	≤38%	50– 130%
	C1	0.1 – 0.5	0.03	0.06	≤38%	50– 130%
	C2	0.1 – 0.5	0.03	0.06	≤38%	50– 130%
	C3	0.5 – 1.5	0.1	0.2	≤32%	50– 130%
C4	0.5 – 1.5	0.1	0.2	≤32%	50– 130%	
OA Group	OA	0.03 – 0.2	0.01	0.02	≤44%	60-115%
	DTX1	0.03 – 0.2	0.01	0.02	≤44%	60-115%
	DTX2	0.1 – 0.5	0.03	0.06	≤38%	60-115%
Domoic Acid	DA	14 - 26	2	4	≤20%	80-110%
AZA Group	AZA1	0.03 – 0.2	0.01	0.02	≤44%	40 - 120%
	AZA2	0.03 – 0.2	0.01	0.02	≤44%	40 - 120%
	AZA3	0.03 – 0.2	0.01	0.02	≤44%	40 - 120%

Total toxicity is estimated as the sum of the molar concentrations of detected analogs multiplied by the relevant specific toxicity equivalency factors (TEFs). Internationally scientifically validated TEFs must be used. The science behind TEFs is developing. Current internationally validated TEF's will be found on the FAO website. Information on TEFs could be incorporated in this standard at a future date.

Methods should be validated and used for the relevant toxin analogues that may contribute to total toxicity. Currently known toxin analogues to consider are listed in Table 1.

Where toxin analogues that are not listed in Table 1 are determined the competent authority must assess the contribution of these analogs to total toxicity whilst conducting further investigations.

I-8.6.2 Biological and Functional Methods to Determine Paralytic Shellfish Toxicity

AOAC Official Method 959.08 Paralytic Shellfish Poison and other biological or functional assays that perform equally to AOAC 959.08 may be used.