



THE BENEFITS OF EVALUATING THE CREDIBILITY, RELIABILITY AND
ACCURACY OF TESTING SOLUTIONS –
**STANDARD METHOD PERFORMANCE REQUIREMENTS AND
AOAC TEST STANDARDS**



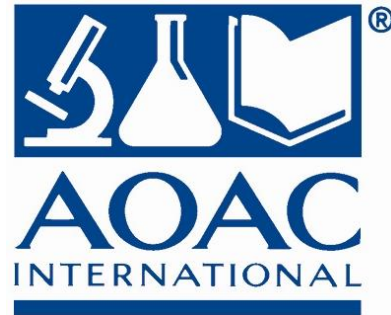
26 February 2025

Erin S. Crowley- Past President
AOAC Liaison to ARSO

AOAC INTERNATIONAL



*In Food & Agriculture,
We Set the Standard*



Established in 1884

AOAC INTERNATIONAL is an independent, not-for-profit association and voluntary consensus standards developing organization (SDO).

VISION: Global alignment for trusted analytical solutions

MISSION: Advance food safety and product integrity through standards, validated test methods, and laboratory quality programs

WHY AOAC?



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Scientific Solutions ▾ Membership ▾ News and Pubs ▾ Get Involved ▾ Resources ▾

AOAC INTERNATIONAL Joins Forces with the African Organisation for Standardisation



- ▶ Facilitate the development, harmonization/ alignment, implementation, validation and promotion of AOAC Official Methods of AnalysisSM (OMA) to serve the African Priority Sectors, including chemicals, and African traditional indigenous foods.
- ▶ Capacity building of ARSO member experts for the development of analytical testing methods

AOAC Science Programs



STANDARD DEVELOPMENT

- Standard Method Performance Requirements (SMPR[®])
- Standard Guidelines

METHOD CONFORMITY ASSESSMENT

- *Official Methods of Analysis*SM (OMA)
- *Performance Tested Methods*SM (PTM)

PROFICIENCY TESTING



Scientific Initiatives - Programs



PROGRAM

CURRENT FOCUS



Stakeholder Program on Infant Formula and Adult Nutritional

Milk fat globule membrane proteins



Stakeholder Program on Agent Detection Assays

Metagenomics



Gluten & Food Allergens

Validation guidelines and end-user guidance



AOAC INTERNATIONAL Microbiological Standards

Cyclospora, Legionella, validation guidance revision and updates



Botanical Ingredients & Dietary Supplements Integrity

Botanical identity verification



Cannabis Analytical Science Program

Pesticide residue analysis, cannabis micro validation guidelines



Novel Foods from Alternative Protein Sources

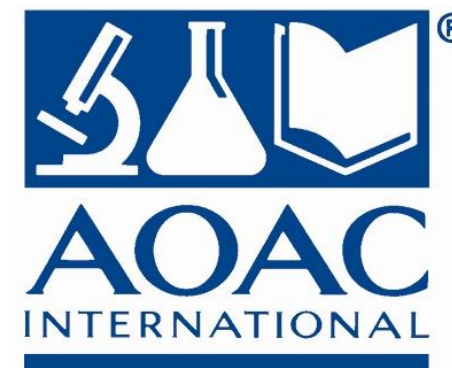
Total amino acid analysis

Harmonization of Standards: Codex Standard 234-1999



RECOMMENDED METHODS OF ANALYSIS AND SAMPLING – INFANT FORMULA

Analyte	Standard/Method	Type
Amino acids	AOAC 2018.06 / ISO 4214 IDF 254 / AACC 07-50.01	II
Biotin	AOAC 2016.02 / ISO 23305	II
Carnitine	AOAC 2015.10 / ISO 21468	II
Chloride	AOAC 2016.03 / ISO 21422 IDF 242	II
Choline	AOAC 2015.10 / ISO 21468	II
Fatty acids	AOAC 2012.13 / ISO 16958 IDF 231	II
Folic acid	AOAC 2011.06 / ISO 20631	II
Inositol	AOAC 2011.18 / ISO 20637	II
Iodine	AOAC 2012.15 / ISO 20647 IDF 234	II
Minerals & Trace Elements	AOAC 2015.06 / ISO 21424 IDF 243	II
Minerals & Trace Elements	AOAC 2011.14 / ISO 15151 IDF 229	III
Nucleotides	AOAC 2011.20 / ISO 20638	II
Pantothenic acid	AOAC 2012.16 / ISO 20639	II
Tryptophan	AOAC 2017.03	II
Ultra Trace Minerals (Cr/Mo/Se)	AOAC 2011.19 / ISO 20649 IDF 235	II
Vitamin A	AOAC 2012.10 / ISO 20633	II
Vitamins B ₁ , B ₂ , B ₃ , B ₆	AOAC 2015.14 / ISO 21470	II
Vitamin B ₁₂	AOAC 2011.10 / ISO 20634	II
Vitamin B ₁₂	AOAC 2014.02	III
Vitamins C	AOAC 2012.22 / ISO 20635	II
Vitamin D	AOAC 2016.05 / ISO 20636	II
Vitamin E	AOAC 2012.10 / ISO 20633	II
Vitamin K ₁	AOAC 2015.09 / ISO 21446	II



**STAKEHOLDER PROGRAM
ON INFANT FORMULA AND
ADULT NUTRITIONALS**

AOAC INTERNATIONAL Sections



INTERNATIONAL ORGANIZATION WITH 15 REGIONAL SECTIONS



Needs for Standard Development to Measure Cyanide in Cassava, Cassava Products and other Food Materials



Virtual Work Session on November 30, 2023



Annabelle Briones, Ph.D.
DOST-ITDI, The Philippines,
Director
AOAC SEA HoMWG Chair



Stewart Jones
Asia Pacific Food Analysis
Network (APFAN), Coordinator
AOAC SEA CBWG Co-chair



Deni Taleski, Ph.D.
National Measurement
Institute, Australia, Technical
Development Officer



Patrick Mulder, Ph.D.
Wageningen Food Safety
Research (WFSR), The
Netherlands; EURL on Mycotoxins
& Plant Toxins, Research Scientist



Xinping Hou, Ph.D.
BV-AQ, Manager
AOAC SEA President Chair



Tetsuhisa Goto, Ph.D.
Central Science Commerce Inc,
Japan, Technical Advisor
AOACI member since 1983; Chair for
Method Committee D, 2004-2007



Emmanuel Kirwa
African Organisation for
Standardisation (ARSO)



Kate Mastovska, Ph.D.
AOAC INTERNATIONAL,
Deputy Executive Director &
Chief Science Officer



Erik Konings, Ph.D.
Nestlé Institute of Food Safety and
Analytical Sciences, Expert
AOAC SEA Mentor
AOACI Past President



New Project

Pesticide multiresidue analysis in herbs and spices



Confirm your interest by completing form (Scan QR code please)



CAPACITY BUILDING ACTIVITIES SECTIONS



AOAC INTERNATIONAL SOUTHEAST ASIA SECTION

MPOB

INTERNATIONAL WORKSHOP FOR MOSH MOAH ANALYSIS IN FOODS

27-28 AUGUST 2024
PALMITIC & OLEIC MEETING ROOM
MPOB HQ BANGI MALAYSIA

AOAC EUROPE SECTION

Satellite Harmonisation Workshops

within in the 11th International Symposium on Recent Advances in Food Analysis
Monday November 4th, 2024; Prague, Czech Republic

“Bioassays and Non-Target Methods”

EUROPE SECTION OF AOAC INTERNATIONAL

AOAC EUROPE Workshops:
Bioassays Best Practices in vitro assays of food & other complex mixtures applications and Not-Targeted Methods

fssai FOOD SAFETY AND STANDARDS AUTHORITY OF INDIA
ITCFSAN International Training Centre Food Safety & Applied Nutrition
AOAC INTERNATIONAL INDIA SECTION
Global Food Safety Partnership

September 15, 2021 • 10.30 am to 13.30 am

STRUCTURED SURVEILLANCE OF MILK AND MILK PRODUCT QUALITY IN INDIA

Keynote Address

Dr. HARINDER OBEROI
Advisor, QA
Food Safety and standards Authority of India

Keynote Speakers

Dr. Harrie van den Bijgaart
Manager,
Innovation & Business Development
Qlip, Netherlands

Dr. Steve Holroyd,
Principal Research Scientist
Fonterra Research and Development Centre

Dr. Monica Knoedlseder
Managing Director
muva kempen GmbH

Panel Discussion

Dr. Erik Konings
Past President of AOAC International,
Program Manager Nestle Institute of Food
Safety and Analytical Sciences, Switzerland

Dr. Harrie van den Bijgaart
Manager,
Innovation & Business
Development
Qlip, Netherlands

Dr. Kaushik Banerjee
NBC Groupes

Dr. Steve Holroyd,
Principal Research Scientist
Fonterra Research and
Development Centre

Dr. Monica Knoedlseder
Managing Director
muva kempen GmbH

Director, QA
FSSAI

Session Convenors

Mr. Shrinivas Joshi
President
India Section of
AOAC International

Ms. Subhprada Nishtala
Director in Charge
ITCFSAN

For further details:
Email: academic.itcfsan@gmail.com | Call/Whatsapp: 8976909053 / 8976909056

For registration click on the link below:
<https://attendee.gotowebinar.com/register/5269568223019016718>

AOAC INTERNATIONAL
Sub-Saharan Africa Section

TRILOGY **r:biopharm**

Mycotoxins in food and feed

regulatory requirements, challenges and analytical best practices

DATE:
Wednesday
January 20, 2021

TIME:
GMT+2
15h00-17h00

Food Regulatory Science WEBINAR 2024 Series

GFoRSS Global Food Regulatory Science Society

In collaboration with **UNIVERSITE LAVAL**, **parera**, **IUFoST**

METHODS OF ANALYSIS SUPPORTING HALAL FOOD CERTIFICATION

HALAL

Out of 569 registrants, 242 attendees from 68 countries participated

This Event is supported by:

AOAC INTERNATIONAL ARAB SECTION **AOAC INTERNATIONAL SOUTHEAST ASIA SECTION**

12th of November
11:00 AM (GMT)

Scan the QR-Code to register your participation

KEYNOTE SPEAKERS:
Dr. Silvia Dominguez, & Dwi Yulianto Laksono, S.Si.
1 PARERA, Université Laval, Canada 2 SIG Laboratory – Indonesia

MODERATED BY:
Dr. Ruba Goussous
Member of GFoRSS and Food Safety Expert at the Jordan Food and Drug Administration (JFDA)

STAY INFORMED, STAY CONNECTED @gfors2023

Scientific Initiatives in Development



What is AOAC INTERNATIONAL working on for 2025?

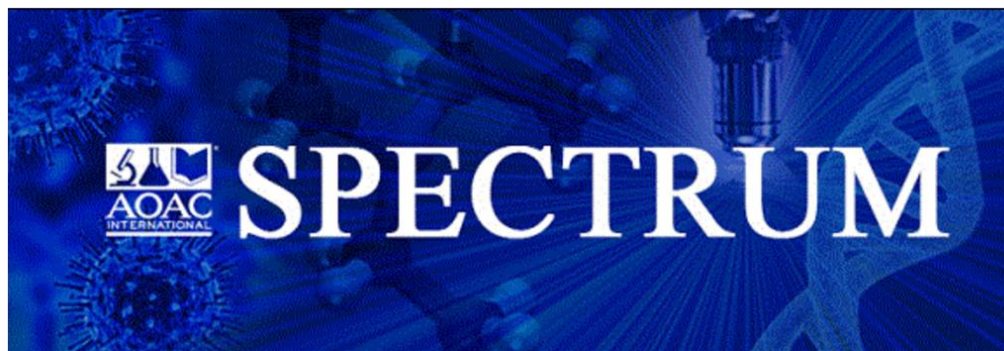
- ❑ **Contaminants from Food Contact Materials**
- ❑ **Vitamins in Food and Dietary Supplements**
- ❑ **Dietary Fiber and other Carbohydrates**
- ❑ **Organic Produce Authenticity**
- ❑ **Functional Mushrooms**
- ❑ **Biostimulants**
- ❑ **Probiotics**



THANK YOU!



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Katerina Mastovska, Ph.D.
Deputy Executive Director & Chief Science Officer
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kmastovska@aoac.org

AOAC SEA SECTION ANNUAL MEETING 2024, MANILA, PHILIPPINES



- Ms. Kriz Anne Joi L. Minguez, Chemist from Fertilizer and Pesticide Authority (FPA) of Philippines
- Mr. Mark Kenneth Gonzales from the Bureau of Plant Industry (BPI) Philippines
- Ms. Veronica Picado, Technical Director, Minor Use Foundation (MUF)
- Dr. Kaushik Banerjee ICAR-National Research Centre for Grapes, Pune, India
- Ms. YiFan Jiang, OFI Singapore, Co-chair AOAC SEA working group
- Dr. Sasireka Rajendran, Asia Regional Manager, Minor Use Foundation (moderator)




Selection pesticide residues in scope of future Official Method(s) for culinary herbs and spices **based on highest level of non-conformity in cross-border trade** for priority commodities in combination with food safety risk.

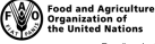
- ❑ Current regulatory landscape for pesticide residues in the Philippines and efforts in international harmonization.
- ❑ Monitoring Pesticide Residues in Agricultural Commodities – Current Advancements and Challenges.
- ❑ MRL Setting from a Codex Perspective.
- ❑ Regulatory analysis of pesticides in spices-challenges and way forward.
- ❑ **Working Group on Pesticide Multiresidue Analysis in Culinary Herbs and Spices:**
 1. The Need to Harmonize Nomenclature and Classification of Herbs and Spices
 2. Key considerations in dealing with Mixtures (seasoning or spice blends)
 3. The impact of Sample Matrix in the Selection of Methods
 4. Achievable LOQs in Regulatory Decision


Codex Standard 234-1999



RECOMMENDED METHODS OF ANALYSIS AND SAMPLING


CODEX ALIMENTARIUS
 INTERNATIONAL FOOD STANDARDS


 Food and Agriculture
 Organization of
 the United Nations


 World Health
 Organization

E-mail: codex@fao.org - www.codexalimentarius.org

RECOMMENDED METHODS OF ANALYSIS AND SAMPLING
 CXS 234-1999
 Adopted in 1999.
 This document is amended yearly. Last amendment: 2023*

* The most updated version of the method should be used, in application of ISO/IEC 17025. The present list of methods reflects the amendments adopted by the Forty-sixth Session of the Codex Alimentarius Commission in 2023.

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CXS 234-1999

Table 4. Methods of analysis for dietary fibre: Guidelines for Use of Nutrition and Health Claims (CXG 23-1997): Table of conditions for claims

Standard	Provisions	Method	Principle	Type
General methods that do not measure the lower molecular weight fraction (i.e. monomeric units <= 9)⁽²⁾				
All foods (1)	Method applicable for determining dietary fibres that do not include the lower molecular weight fraction (4)	AOAC 985.29 AACC Intl 32-05.01	Enzymatic gravimetry	Type I
All foods (1)	Method applicable for determining dietary fibres that do not include the lower molecular weight fraction and also includes determination for soluble and insoluble dietary fibres (4)	AOAC 991.43 AACC Intl 32-07.01 NMKL 129	Enzymatic gravimetry	Type I
All foods (1)	Method applicable for determining dietary fibres that do not include the lower molecular weight fraction, in foods and food products containing more than 10% dietary fibres and less than 2% starch (e.g. fruits) (4)	AOAC 993.21	Gravimetry	Type I
All foods (1)	Method applicable for determining dietary fibres that do not include the lower molecular weight fraction. Provides sugar residue composition of dietary fibre polysaccharides, as well as content of Klason lignin (4)	AOAC 994.13 AACC Intl 32- 25.01 NMKL 162	Enzymatic GC/ colorimetry gravimetry	Type I
All foods (1)	Insoluble dietary fibres in food and food products (4)	AOAC 991.42 (Specific for insoluble fibre) AACC Intl 32-20.01	Enzymatic gravimetry	Type I
All foods (1)	Soluble dietary fibres in food and food products (4)	AOAC 993.19 (Specific for soluble fibre)	Enzymatic gravimetry	Type I
General methods that measure both the higher (monomeric units > 9) and the lower molecular weight fraction (monomeric units <=9)⁽²⁾				
All foods (1)	Method applicable for determining the content of dietary fibres of higher and lower molecular weight, in food where resistant starches are not present	AOAC 2001.03 AACC Intl 32-41.01	Enzymatic gravimetry and Liquid chromatography	Type I
All foods (1)	Method applicable for determining the content of dietary fibres of higher and lower molecular weight. The method is applicable in food that may, or may not, contain resistant starch	ICC Standard No. 185 / AOAC 2017.16 / AACC 32-60-01	Enzymatic gravimetry High pressure liquid chromatography	Type I
All foods (1)	Method applicable for determining the content of insoluble and soluble dietary fibres of higher and lower molecular weight. The method is applicable in food that may, or may not, contain resistant starches	AACC Intl 32-50.01 AOAC 2011.25	Enzymatic gravimetry High Pressure Liquid Chromatography	Type I

Proficiency Testing



- ❑ **ISO/IEC 17043 Accredited Programs**
 - **MICROBIOLOGY** – Standard food pathogen program, pathogen-free program, meat microbiology, *Listeria* environmental swab, *Salmonella* in liquid egg
 - **CHEMISTRY** – Food nutrients, pesticide residues in fruits & vegetables, meat & cheese, vitamins & nutrients in infant formula
 - **HEMP/CANNABIS** - Chemistry programs in dry plant materials of hemp and cannabis with > 0.3% THC, microbiology programs and chemistry in edibles & oils
- ❑ **Quality Assurance & Educational Samples (QAES)**
- ❑ **Development of custom programs and collaborations with AOAC sections and other organizations**

<https://www.aoac.org/scientific-solutions/proficiency-testing/>

In Food & Agriculture, We Set the Standard



Performance Tested MethodsSM (PTM) Program

- ❑ Independent third-party review and certification for user-based, proprietary test method performance
- ❑ Validation of test kits (e.g., food pathogens, gluten & food allergens, mycotoxins and other chemical residues & contaminants) and other methods with a proprietary component (equipment/device, column/cartridge, software *etc.*)
- ❑ Complementary program to the *Official Methods of Analysis*SM (OMA) program

<https://www.aoac.org/scientific-solutions/research-institute-ptm/>

AOAC Official Methods



- **Comprehensive collection** of > 3,000 chemistry, microbiology and molecular biology methods
- Methods undergo **rigorous scientific scrutiny** to ensure that they are **credible and defensible**
- Provide **increased confidence** in the analytical results
- **Referenced by regulations** and government agencies
- Adopted as **internationally harmonized reference methods** by other SDOs, such as the International Organization for Standardization (ISO) or International Dairy Federation (IDF)
- **Adopted by Codex Alimentarius** (Codex Standard CXS 234-1999: Recommended Methods of Analysis and Sampling)

