Inside Laboratory Management

A PUBLICATION OF AOAC INTERNATIONAL

NOVEMBER/DECEMBER 2023

AOAC INTERNATIONAL

In Food & Agriculture, We Set the Standard

Reflecting on a Year of Growth, Relations, and Integrity

MARK YOUR CALENDAR

AOAC MIDYEAR MEETING

Empowering the Scientific Community

March 4–7, 2024

Stay in the forefront of emerging food safety challenges and the new science to meet these challenges. The AOAC INTERNATIONAL Midyear Meeting and Analytical Solutions Forum (ASF) empower the scientific community to take the lead on addressing global and emerging issues.

- Add your voice to ASF on next steps for key emerging issues and technologies and analytical solutions to support food safety science
- Learn about new science, health concerns, and regulations around hot topics in food safety and security
- Broaden your analytical horizons with a comprehensive look at food safety applications using emerging technologies
- Discover components of and develop a better understanding of AOAC technical validation requirements and processes
- Get the latest expert updates on AOAC activities, including core science and stakeholder programs, analytical communities, and Sections
- And more

For more information and how to register, visit:

aoac.org/2024-midyear-meeting/

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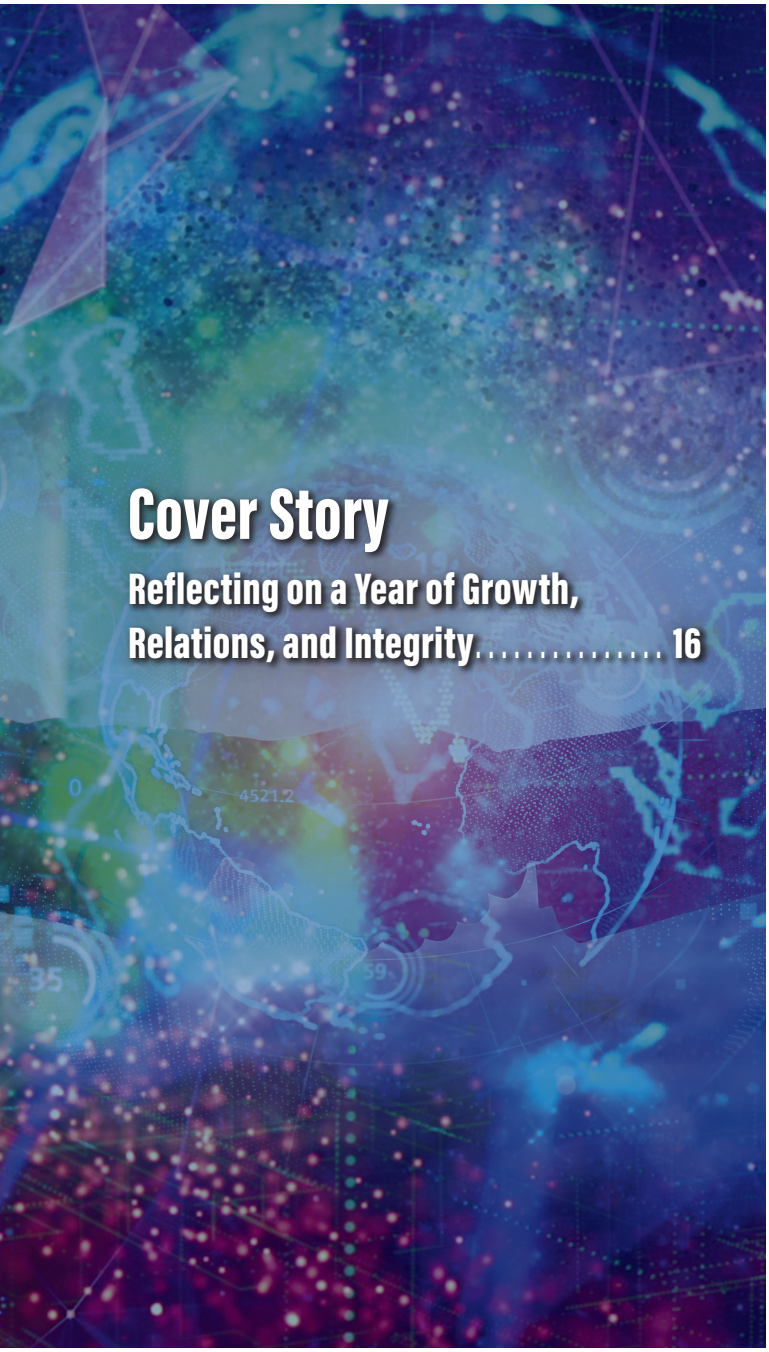

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AOAC INTERNATIONAL
In Food & Agriculture, We Set the Standard

Continuing to Build a Sustainable Association Dedicated to Analytical Excellence

Thank you to the AOAC membership for the opportunity to serve as your president for the coming year. As we head into AOAC's 140th year, it is an honor to serve an organization with such an outstanding heritage. I look forward to what lies ahead as we continue to build on the momentum of this past year.

First, I want to thank **John Szpylka,** immediate past-president of AOAC, for his leadership. During his term, AOAC made significant progress through its integrated and core science programs, advancing existing initiatives while scanning the horizon for emerging hot topics. Just some of the achievements included adoption of methods for amino acids, fluoride, biotin, acrylamide, and fatty acids; approval of *Standard Method Performance Requirements* (SMPRs®) for pesticides and heavy metals in cannabis-containing beverages, pyrrolizidine alkaloids (PAs), per- and polyfluoroalkyl substances (PFAS), and selected residual solvents in color additives; exploration of emerging hot topics, such as novel foods from alternative protein sources, ethylene oxide, mushrooms, and *Legionella;* and launch of the Q^2 certification program, among others (*see* cover story of this issue for a year in review). Following in the footsteps of John (and THE Moose) for writing the bimonthly president's column will be a difficult challenge.

All the presidents before me have provided the leadership and expertise that have transformed the Association into the relevant, global, food-safety solutions provider it is today. It is my goal to strive to add to their legacy of achievements.

Second, working in a dynamic environment like food safety, AOAC must continue to evaluate its strategic direction as an organization to ensure our plan remains relevant in the upcoming years. In December 2023, the AOAC Board of Directors meeting focused on actions that will continue to generate revenue, such as emphasizing new proficiency testing matrices and initiating viable method activities, working to get more organizations involved in AOAC and increasing networking opportunities in communities, and implementing two new task forces [one to engage students, led by **Xiangyu Deng** of the University of Georgia, and the other led by me to focus on new in-career (5–10 years) professionals to add new perspectives to the board and AOAC]. It was great to have several new board members and Organizational Affiliates present, involved, and eager to take action.

Looking ahead to 2024, the AOAC Midyear Meeting will be here before we know it, so be sure to register today (*see* page 3 of this issue). I hope to see you on March 4–7, 2024, when the AOAC Analytical Solutions Forum will spotlight emerging trends, regulatory and technical challenges, and opportunities in food safety to drive potential program development. Attendees will also learn about the latest AOAC, Sections, and analytical communities' activities and how they can play a role.

The most important element to AOAC's success is its members, and I thank you

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2024 Midyear Meeting Registration and Schedule

Registration is open for the 2024 AOAC INTERNATIONAL Midyear Meeting and Analytical Solutions Forum in Gaithersburg, Maryland, USA, on March 4–7, 2024. Stay at the forefront of new food safety challenges and the new science to meet them.

All events are available in-person and virtually, except for training courses and receptions, which are in-person only. Events will not be recorded and will not be available after the Midyear Meeting. For more information and to register, visit https://www.aoac.org/2024-midyear-meeting/. ■

MONDAY, MARCH 4, 2024

8:30 AM–12:30 PM EST	Training Course: 2024 AOAC Accreditation Guidelines for Laboratories (ALACC)—Chemistry and Microbiology
10:30 AM–12:30 PM EST	Board of Directors Meeting
2:00 PM–2:45 PM EST	Keynote Address
3:00 PM–5:00 PM EST	Analytical Solutions Forum (ASF)
5:00 PM–6:00 PM EST	Networking Reception

TUESDAY, MARCH 5, 2024

8:30 AM–11:30 AM EST	Stakeholder Program on Agent Detection Assays (SPADA) Meeting
	Stakeholder Program on Infant Formula and Adult Nutritionals (SPIFAN) Meeting
	Training Course: 2024 AOAC Accreditation Guidelines for Laboratories (ALACC)—Cannabis Analysis Annex
1:00 PM–5:00 PM EST	AOAC Nutrient Methods: SPIFAN and Other Methods for Nutrient Analysis
	Cannabis Analytical Science Program (CASP) Meeting
5:00 PM–6:00 PM EST	Networking Reception

WEDNESDAY, MARCH 6, 2024

8:30 AM–11:30 AM EST	AOAC Contaminants Projects and Methods: PFAS and Ethylene Oxide Initiatives Emerging Issues, and Highlights of AOAC Methods
	AOAC Microbiology Projects and Methods: Analytical International Methods and Standards (AIMS) Program Emerging Issues, and Highlights of AOAC Methods
1:00 PM–3:30 PM EST	Botanical Ingredients and Dietary Supplement Integrity (BIDSI) Program Meeting
	Performance Tested Methods^{SM} (PTM) Program Workshop
4:00 PM–5:00 PM EST	Contaminants Community Meeting
	Microbiology Community Meeting
5:00 PM–6:00 PM EST	Networking Reception

THURSDAY, MARCH 7, 2024

8:30 AM–10:30 AM EST	Metals Initiative Meeting
8:30 AM–11:30 AM EST	Novel Foods Program Meeting
	Training Course: Gluten and Food Allergens (GFA) Method Validation Guidelines
10:30 AM–11:30 AM EST	Metals Community Meeting
1:00 PM–2:00 PM EST	Non-Targeted Testing and Data Analysis
	AOAC Agricultural Materials Methods
1:00 PM–2:30 PM EST	GFA Program Meeting
2:30 PM–3:30 PM EST	Color Additives Community Meeting
	GFA Community Meeting
	Agricultural Materials Community Meeting

FRIDAY, MARCH 8, 2024

8:30 AM–3:30 PM EST	Training Course: Method Validation (AOAC Headquarters, Rockville, Maryland, USA)

AOAC and ISO Renew Cooperation Agreement

AOAC INTERNATIONAL and the International Organization for Standardization (ISO) announce renewal of the cooperation agreement for joint development and approval of common standards and methods in ISO Technical Committee for Food Products (TC 34). The partnership, which has been extended for another 5 years, significantly increases the global relevance and impact of AOAC/ISO standards and methods.

"Harmonization by AOAC and ISO broadens global acceptance and increases relevance of methods, benefiting all stakeholders and consumers," said **David B. Schmidt,** executive director of AOAC INTERNATIONAL. "AOAC and ISO's commitment and global leadership pave the way for these important methods to ultimately advance to the Codex process for consideration as International Standards. We look forward to collaborating further with ISO and the continued success of the cooperation agreement."

(I to r) David B. Schmidt, AOAC, and Paul Mennecier, chair of ISO/TC 34, signing on behalf of ISO's Secretary-General.

Table 1. Joint AOAC-ISO/IDF methods adopted as Codex Standards

Analyte	AOAC *Official Method*℠	ISO/IDF
Folic acid	**2011.06**[a]	ISO 20631
Vitamin B_{12}	**2011.10**[a]	ISO 20634
Minerals and trace elements	**2011.14**[b]	ISO 15151 | IDF 229
Myo-inositol	**2011.18**[a]	ISO 20637
Ultra-trace minerals (Cr, Mo, Se)	**2011.19**[a]	ISO 20649 | IDF 235
Nucleotides	**2011.20**[a]	ISO 20638
Vitamins A and E	**2012.10**[a]	ISO 20633
Fatty acids	**2012.13**[a]	ISO 16958 | IDF 231
Iodine	**2012.15v**	ISO 20647 | IDF 234
Pantothenic acid	**2012.16**[a]	ISO 20639
Vitamin C	**2012.22**[a]	ISO 20635
Minerals and trace elements	**2015.06**[a]	ISO 21424 | IDF 243
Vitamin K	**2015.09**[a]	ISO 21466
Carnitine/choline	**2015.10**[a]	ISO 21468
Vitamins B_1, B_2, B_3, and B_6	**2015.14**[a]	ISO 21470
Biotin	**2016.02**[a]	ISO 23305
Chloride	**2016.03**[a]	ISO 21422 | IDF 242
Vitamin D	**2016.05**[a]	ISO 20636

[a] Type II (Reference Method).
[b] Type III (Alternative Approved Method).

Under the renewed agreement, signed on October 17, 2023, during the International Dairy Federation (IDF) World Dairy Summit in Chicago, Illinois, USA, AOAC and ISO can participate in each other's work, whereby experts from each organization can serve on the other organization's working groups to reach consensus on standards and methods of analysis. Candidate methods undergo parallel approval processes for AOAC and ISO, and if approved, are published by both organizations.

Now entering its 13th year, the AOAC/ISO partnership has resulted in 18 official methods in support of the AOAC Stakeholder Program on Infant Formula and Adult Nutritionals (SPIFAN) initiative that are recognized by Codex as International Standards (see table). These AOAC SPIFAN methods for testing infant formula vitamins and other micronutrients were jointly developed and approved and presented to Codex as joint AOAC-ISO/IDF methods. Seventeen of these methods are designated as Type II, meaning they can be used for the purposes of dispute resolution and as reference methods for these nutrients in infant formulas worldwide. AOAC-ISO/IDF methods adopted by Codex demonstrate compliance with Codex Standards and help facilitate trade.

Since the initial cooperation agreement was signed on June 18, 2012, subsequent renewals extended the purview from milk and milk products to include projects in the scope of ISO/TC 34.

"Leveraging success of the prior cooperation agreements with ISO, we are excited to continue to work together to harmonize optimal global standards for a new range of food products," Schmidt says.

For more information on AOAC SPIFAN, visit https://www.aoac.org/scientific-solutions/spifan/. ■

Coates Retires

Scott Coates, senior director for the AOAC Research Institute, retired at the end of 2023 after more than 30 years of service.

He came to AOAC in 1992 "expecting to stay only a couple of years but found the work always to be challenging and interesting," he says. "It makes it easy to get up and go to work in the morning when you know that what you are doing is materially improving our community."

Coates began his career at AOAC as manager of the Research Institute's *Performance Tested Methods*℠ (PTM) Program, which has grown to a highly respected and successful certification program with more than 350 approved test kits since its inception over 30 years ago. When

Scott Coates

starting the PTM Program, he negotiated an agreement with the U.S. Food and Drug Administration (FDA) to validate test kits to detect antibiotic residues in milk.

"With development of the PTM Program, Scott helped grow AOAC's reputation as a leader in providing analytical solutions for food safety," said **David B. Schmidt,** AOAC executive director. "The program has proven much success in validating innovative technologies for detection of microbiological pathogens that are simple, accurate, fast, and reliable as possible to help the food and beverage industries ensure quality and safety of products."

From 2009 to 2020, Coates served as AOAC's chief science officer. In this capacity, one of his first projects was to create guidelines and standards for AOAC validation of analytical methods. Consequently, the guidelines were published as Appendix F in the *Official Methods of Analysis*℠ compendium and have been used since 2011 as the reference for developing AOAC *Standard Method Performance Requirements* (SMPRs®). SMPRs specify the performance requirements for candidate methods, including specific analytes required and other analytical criteria such as limit of quantification (LOQ). Coates has worked with dozens

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Coates Retires

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of AOAC working groups and hundreds of AOAC stakeholders to develop SMPRs covering the gamut of *Bacillus anthracis* in white powder to vitamin K in infant formula.

In 2018, he spearheaded formation of the AOAC Cannabis Analytical Science Program (CASP), which has been successful in applying AOAC's standards development and methods approval processes for the analysis of cannabis. The initiative has resulted in SMPRs for *Aspergillus,* selected residual solvents, cannabinoids, heavy metals, *Salmonella,* Shiga toxin-producing *Escherichia coli,* mycotoxins, viable yeast and mold count enumeration, and pesticides in cannabis and cannabis products. In addition, AOAC SMPRs for measuring cannabinoids in hemp were referenced in the U.S. Farm Bill implementation regulations.

Coates shifted back to the AOAC Research Institute in 2020, serving as senior director. Under his leadership, the AOAC Research Institute embarked on harmonized validation studies with MicroVal, AFNOR, and NordVal. He continued innovative approaches to create and implement rapid response validation projects to address emerging analytical needs. These include Emergency Response Validation (ERV) for detecting SARS-CoV-2 on surfaces, which won the 2021 American Society of Association Executives (ASAE) Power of A Silver Award, GovVal, and Targeted Matrix Evaluation to provide an avenue to expand existing detection claims to new matrices such as cannabis. Further, the ERV for detection of SARS-CoV-2 on stainless steel surfaces project was the first to implement the newly approved Appendix Q for *in-silico* analysis, published in the *Official Methods of Analysis*℠ compendium.

AOAC thanks Coates for three decades of dedication and contributions. ■

"Scott has built an excellent program that has resulted in AOAC certification of hundreds of commercially available rapid tests, a venture that has no doubt become one of the most successful programs in AOAC history. Congratulations on a job well done, and welcome to the family of retired public servants."

—**Joe Boison,** EJ Consultancy

"Scott is truly a trailblazer in advancing global food safety, public health, and security through his many contributions to the modern-day standards setting and methods validation programs at AOAC INTERNATIONAL. His pioneering AOAC journey resulted in development of the PTM Program, transforming the process time of validating proprietary diagnostic methods from years to months. This has to be one of the most extraordinary accomplishments in the annals of AOAC. His transformative contributions and visionary leadership have cemented an indelible legacy that will live on in the DNA of AOAC. Wishing Scott good health, much happiness, and great adventure in his retirement. Enjoy the ride!"

—**Ron Johnson,** AOAC past president

"Scott built the PTM Program from scratch and has shown how successful AOAC can be in maintaining scientific integrity while being flexible at the same time. He created an atmosphere that allowed the Technical Consultant team to explore new areas and react to emerging needs quickly and practically. Scott encouraged us to be innovative in expanding the reach and scope of the AOAC Research Institute. I wish him all the best in his well-deserved retirement!"

—**Sharon Brunelle,** AOAC Consultant

"Scott has a special ability to chime in on the very essential nature of what needs to be addressed. He often explored new ideas for programs, needs of the community, and regularly brought discussions back to narrow down simple answers to problems and processes. Logic and thinking outside the box are his strong suits, and I'm thankful to have had those experiences under his leadership. I wish the best for Scott's retirement. I'm sure he'll be busier than ever with his family, completing his book, spending time exploring the world of whiskey, and working on his classic cars."

—**Nora Marshall,** senior manager, AOAC Research Institute

Awareness of Safety and Security in the Laboratory: New Perspectives

Safety and security are well-known concepts in many areas, from engineering fields to food-related environments. In today's world, with the emergence of novel pathogens and alternative uses to technologies, combined with greater risks to data integrity and management, the concept of security is also important in chemical and microbiological laboratory settings (1).

AOAC INTERNATIONAL is creating a culture of safety and security in its activities (2). The Association has long been committed to ensuring a consistent level of safety in method validations and approvals. Security has become a need with the emergence of new pathogens and alternative uses to technologies. Requirements for data integrity as it applies to regulatory compliance, as well as ISO 17025 accreditation, provided AOAC with the opportunity to expand its focus to both safety and security.

AOAC revitalized and expanded the Committee on Safety to encompass security in reviewing methods and establishing guidance (2). The AOAC Official Methods Board (OMB) Committee on Safety and Security comprises balanced representation from various sectors with diverse interests and perspectives (*see* sidebar) and plays an important role. Goals of the committee include:

(1) Evaluation and analysis of risks related to new and traditional "in-the-lab" challenges, from novel pathogens, alternative technologies, cannabis products, vaping systems, food authenticity and traceability, cybersecurity and security data breach, etc.

Salvatore Parisi

(2) Promotion of awareness/culture of safety and security within the AOAC membership

(3) Review of guidelines with reference to all predictable risks concerning "in-the-lab" challenges regarding AOAC-validated methods (for example, *Method Safety and Risk Assessment Guide,* checklists and forms for documenting reviews discussions, and AOAC Appendix B on laboratory safety)

Awareness of safety and security is based on some pillars in the lab and other areas of anthropic activities (1, 3, 4):

(1) Analysis of reported/known risks and concerns in the laboratory

(2) Willingness to report dangers in such a protected environment (because the external idea of analytical laboratories is linked to the "zero-risk perception")

Security has become a need with the emergence of new pathogens and alternative uses to technologies.

(3) Pre-planning and elaboration of response actions against risks, including proper communication to lab workers during crises

(4) Adequate training

(5) Validation and verification (vulnerability) assessment of safety and security measures in a coordinated way

(6) Competency assessment of lab workers

(7) Elaboration and development of communication modules of possible risks

(8) Adaptability to modification of lab behaviors when requested

(9) Planning of continuous improvement opportunities

Consequently, the subdivision of safety and security as two faces of the same coin should be taken into account regarding lab risks (1):

(1) Safety (biosafety, chemical safety, and similar definitions) concerns the group of basic principles,

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AOAC Committee on Safety and Security

Wendy McMahon (Chair), Mérieux NutriSciences

Abhilash Babu G, Regional Analytical Laboratory

Filippo De Franceschi, Nestlé Research SA

Kate Evans, Longboard Scientific

Marco Garcia, Hormel Foods

Lauren Hamilton, Hardy Diagnostics

Sookwang Lee, U.S. Food and Drug Administration (FDA)

Salvatore Parisi, Lourdes Matha Institute of Hotel Management and Catering Technology, India

Tom Philips, State Chemist Section (SCS), Maryland Department of Agriculture (MDA)

Raviraj Shinde, PerkinElmer

Diego Uribe, Instituto Tecnológico de la Producción (ITP), Peru ■

Awareness of Safety and Security in the Laboratory: New Perspectives

Continued from page 7

technological factors, and good laboratory practices, which should be defined with the aim of protecting lab workers and the external environment (including the public) from the release or exposure of pathogens, other microbial agents, chemical residues with health consequences, etc.

(2) Security (biosecurity, chemical security, cybersecurity, and similar definitions) comprehends the sum of measures and strategies for people and the whole lab structure with the aim of limiting and preventing theft/loss, diversion, release, and/or misuse of chemical substances, including biotoxins, "dual use" chemicals, biological agents, research animals, radioactive materials, lab equipment, and sensitive information. The term 'security' also includes dedicated actions against vandalisms, sabotages, and unauthorized laboratory activities.

The number of activities, knowledge, and competences when considering safety and security is remarkable. Therefore, the use of known international standards is recommended regarding good laboratory practices, risk assessment/management, and national guidelines.

Creating a culture of safety and security is an individual and collective responsibility. From technicians, scientists, students, and others, everyone must play their part (3, 4). ■

—Salvatore Parisi
Contributing Writer
Visiting Professor, Lourdes Matha Institute of Hotel Management and Catering Technology/Affiliated with University of Kerala, India
drparisi@inwind.it

Creating a culture of safety and security is an individual and collective responsibility. From technicians, scientists, students, and others, everyone must play their part.

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Continuing to Build a Sustainable Association Dedicated to Analytical Excellence

Continued from page 2

for your support of the Association. There are plenty of opportunities to grow and strengthen AOAC, and we need your passion and expertise. I strongly encourage you to become actively involved. For 2024, AOAC is gearing up to launch standards development activities for ethylene oxide residues in selected food, botanical, and dietary supplement matrices; *Legionella* in water; milk fat globule membrane in infant formula and adult nutritionals; microbial contaminants in color additives from natural sources; and novel foods from alternative protein sources, among others. Whatever your area of scientific focus, stage of career, or geographic location, AOAC aims to provide members with benefits and opportunities that support their contribution to public health and allow them to thrive professionally. There have never been more opportunities to get involved whether it be as an expert reviewer, part of a working group, or editor of the *Journal of AOAC INTERNATIONAL*, just to name a few. Contact AOAC staff or board members to learn about all the valuable benefits, both professional and personal.

The future of the organization is bright, and I am excited about all the opportunities to make our Association even stronger and more relevant to a wider audience. Let's keep building on last year and keep the momentum going for 2024. AOAC has done a great job and is poised with unparalleled opportunity in the international arena. It is my hope that our past successes will help guide and inform us to continue to build a sustainable Association dedicated to analytical excellence. ■

—Mary Kay Krogull
President
MaryKay.Krogull@ft.eurofinsus.com

HAPPY BIRTHDAY, AOAC!

AOAC is celebrating 139 years of analytical excellence. The Association of Official Agricultural Chemists (now AOAC INTERNATIONAL) officially became an organization on September 8, 1884, during the annual conference of the American Association for the Advancement of Science (AAAS) in Philadelphia, Pennsylvania, USA. At this meeting, formal organization took place, and the first AOAC Annual Meeting was held.

Did you know...

AOAC was created in the midst of states passing laws and issuing regulations to ensure fair trade practices of commercial fertilizers. Chemists, who had financial responsibility to clients and constituents, charged with analyzing fertilizer materials in the late 1800s expressed concerns about the lack of standardized methods and diverse analytical results. Agricultural chemists were faced with a dilemma and were caught in the middle of disputes over the analytical data reported in fertilizer inspections.

The objectives presented in the first Constitution of the Association were, "to secure, as far as possible, uniformity in legislation with regard to the regulations of the sale of commercial fertilizers in the different states and uniformity and accuracy in the methods and results of fertilizer analysis."

The first three standing committees of three members each were established for phosphoric acid, potash, and nitrogen. Their duties were, "to test methods, to distribute samples to members of the Association and others who may signify their desire to participate in the work, and to present a written report at each annual meeting embodying the progress made during the year in analytical methods bearing on their respective topics and the results done under their direction."

From its modest beginnings focused on arbitrating methods of analysis for three fertilizer elements, today AOAC continues to provide a suite of analytical solutions to handle new generations of products and analytes in the areas of infant formula, cannabis, botanicals and dietary supplements, microbiology food pathogens, gluten and food allergens, biothreat detection, and more.

Happy birthday, AOAC! ■

Official Methods℠ for Taurin, HMOs, and Chlorate/Perchlorate Published in *J. AOAC Int.*

Be sure to check out the September/October 2023 issue of the *Journal of AOAC INTERNATIONAL* for First Action methods for taurine and human milk oligosaccharides (HMOs) in infant formulas and adult nutritionals.

In "Analysis of Taurine in Infant Formulas and Adult Nutritionals by Hydrophilic Interaction Liquid Chromatography–Mass Spectrometry: First Action **2022.03**," by **Brendon D. Gill** and **Jackie E. Wood** [*J. AOAC Int.* **106**(5), 1230(2023), https://doi.org/10.1093/jaoacint/qsad079], the authors describe a single-laboratory validation (SLV) study to evaluate the analytical performance of a hydrophilic interaction liquid chromatography–tandem mass spectrometry (HILIC-MS/MS) method against AOAC *Standard Method Performance Requirement* (SMPR®) 2014.013 for analysis of amino acids in infant formula and adult/pediatric nutritional formula. In the method, submitted by Fonterra Cooperative Group, following protein precipitation with Carrez solutions,

taurine is extracted and separated by HILIC with detection by triple quadrupole MS using multiple reaction monitoring. Stable isotope labeled taurine internal standard is used for quantification to correct for losses in extraction and

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Official Methods[SM] for Taurine, HMOs, and Chlorate/Perchlorate Published in *J. AOAC Int.*

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variations in ionization in the ion source.

Results showed that there was no statistically significant bias compared with reference values for U.S. National Institute of Standards and Technology (NIST) Standard Reference Materials (SRM) 1849a and 1869, and with results from AOAC *Official Method*[SM] **997.05** Taurine in Powdered Milk and Powdered Infant Formulae by Liquid Chromatography. The method meets SMPR 2014.013 and is fit-for-purpose.

In the paper, "Method for the Determination of 2′-Fucosyllactose (2′-FL), 3-Fucosyllactose (3-FL), 6′-Sialyllactose (6′-SL), 3′-Sialyllactose (3′-SL), Lacto-*N*-Tetraose (L*N*T), and Lacto-*N*-neoTetraose (L*N*nT) by High-Performance Anion-Exchange Chromatography with Pulsed Amperometric Detection (HPAEC-PAD): First Action **2022.04,**" by **Philip Haselberger, Fang Tian, Renée Erney, Shuang Liu, Shuo Wang, Qi Lin,** and **Yi Ding** [*J. AOAC Int.* **106**(5), 1237(2023), https://doi.org/10.1093/jaoacint/qsad072], the authors describe a method for simultaneous determination of six HMOs. In the method, developed by Abbott Nutrition, most samples are reconstituted with water followed by filtration. For products containing interferences (fructans and maltodextrins), hydrolysis with enzymes is used. After preparation, samples are analyzed using HPAEC-PAD. The method allows for separation of six HMOs and other carbohydrates commonly found in infant formula and adult nutritional products (e.g., lactose, sucrose, and galactooligosaccharides).

The study included data on multiple matrices evaluated by different laboratories globally. Results showed that the method is valid for six HMOs in infant formula and adult nutritional matrices, including samples with intact protein, protein hydrolysates, elemental formulations free of intact protein, and rice flour over the ranges defined in AOAC SMPRs for HMOs in infant and adult/pediatric nutritional formula. The method is not valid for determination of difucosyllactose (DFL/DiFL).

In "Quantification of Chlorate and Perchlorate in a Broad Range of Food Commodities, Including Baby Food, Nutritional Formulas, and Ingredients by LC-MS/MS: First Action AOAC **2022.06,**" by **José Fernando Huertas-Pérez, Pascal Mottier, Erik Konings, Quentin Baslé, Shi Ying Tan, Monika Kopeć-Durska, Patrycja Zawada, Ashley Griffin, María Guadalupe Sánchez-Calderón, Juan Pablo Silva-Robledo,** and **Lisette Rubio** [*J. AOAC Int.* **106**(6), 1505(2023), https://doi.org/10.1093/jaoacint/qsad086], the authors describe an LC-MS/MS method for determination of chlorate and perchlorate in baby food, infant and adult formulas, and ingredients thereof, which is suited for its application in routine environments where a broad variety of food commodities must be analyzed simultaneously. The method was validated in five Nestlé Quality Assurance Centers (NQACs) in a comprehensive range of representative matrixes of different categories, with results acceptably meeting AOAC SMPR 2021.001. Data generated during the SLV show that the method is simple, accurate, and robust enough to be implemented and applied in routine environments.

AOAC members receive complimentary access to *J. AOAC Int.* To access articles, visit the Oxford University Press website at https://academic.oup.com/jaoac. ■

Results showed that the method is valid for six HMOs in infant formula and adult nutritional matrices, including samples with intact protein, protein hydrolysates, elemental formulations free of intact protein, and rice flour over the ranges defined in AOAC SMPRs for HMOs in infant and adult/pediatric nutritional formula.

Why Publish Your Research with *J. AOAC Int.*?

The *Journal of AOAC INTERNATIONAL* publishes in the fields of chemical, biological, and toxicological analytical chemistry, showcasing the most precise, accurate, and sensitive methods for analysis of foods, food additives, natural products, supplements and contaminants, cosmetics, drugs, toxins, hazardous substances, pesticides, feeds, fertilizers, and the environment.

Learn more about why *J. AOAC Int.* is the perfect home for your research.

- **Analytical journal for public health (chemistry and microbiology):** As the official journal of AOAC INTERNATIONAL, *J. AOAC Int.* upholds the standards of the Association. AOAC INTERNATIONAL brings together government, industry, and academia to establish standard methods of analysis that ensure the safety and integrity of foods and other products that impact public health around the world.
- **Over 100 years of high-quality, trusted research:** *J. AOAC Int.* has a rich and enduring history that spans from its modest beginnings in 1915 to its present-day significance, over 100 years later. Originally focused on publishing mostly annual reports, the journal gradually evolved to encompass a broader range of topics, reflecting the community and activities of the Association. Today *J. AOAC Int.* remains a valuable resource for the international analytical sciences community. Its wide scope now encompasses a variety of topics, and the evolution of the journal has significantly enhanced accessibility and quality, ensuring its continued relevance as a trusted publication for researchers and stakeholders.
- **Global readership:** *J. AOAC Int.* was read by researchers in over 205 countries in 2022, demonstrating that work published in the journal truly has global reach and impact.
- **Citations in prominent policy sources and news outlets:** Research published in *J. AOAC Int.* has been cited and used by the World Health Organization, International Program on Chemical Safety, Food and Agriculture Organization of the United Nations, European Food Safety Authority, and many more. In addition, *J. AOAC Int.* has been cited by news outlets, such as *Women's Health, Medical News Today,* and *Huffington Post*.
- **Rigorous peer review:** *J. AOAC Int.* uses a single anonymized review system. Unless manuscripts are deemed not suitable for review due to scopes outside of the journal, lack of technical or scientific merit, lack of novelty, noncompliance to Instructions to Authors, or poor writing, they will be assigned to one of the nine section editors depending on the subject matter. All manuscripts are peer reviewed by a minimum of two anonymous subject matter experts. Oxford University Press (OUP) and AOAC aim to process all manuscripts as quickly as possible, but it usually takes about a minimum of two weeks to receive reports from reviewers.
- **Rapid publication:** Accepted manuscripts are published online with a DOI within 24 to 48 hours of authors signing their license to publish form, meaning your research will be seen and cited as soon as possible.
- **Range of content:** *J. AOAC Int.* publishes research articles, short communications, review articles, and letters to the editor. The publication is divided into the following topical sections: Animal Food, Pet Food, and Plant Nutrient Methods; Drug Formulations; Environmental Chemical Contaminants; Food Chemical Contaminants; Food Authenticity/Food Fraud, Food Allergens; Human Nutrient Methods; Microbiological Methods; Natural Products; Sampling; and Statistical Analysis and Chemometrics. For a full look at section scopes and descriptions, visit https://academic.oup.com/jaoac/pages/About.
- **Open access option:** *J. AOAC Int.* offers the choice to publish papers open access, and your institution may even provide funds for open access publication. To learn more about the available open access licenses at OUP, visit https://academic.oup.com/pages/open-research/open-access/charges-licences-and-self-archiving. For a list of institutions that may support open access publication, visit https://academic.oup.com/pages/open-research/read-and-publish-agreements/participating-journals-and-institutions.

Ready to Submit?

Refer to the instructions to authors at https://academic.oup.com/jaoac/pages/General_Instructions for more detailed information on manuscript requirements. To submit a manuscript, visit the *J. AOAC Int.* submission site at https://mc.manuscriptcentral.com/aoac_jaoac. ■

Over 100 years of high-quality, trusted research.

J. AOAC Int. Gets A New Look

Starting with the January/February 2024 issue, readers will notice that the *Journal of AOAC INTERNATIONAL* has a new look, with a redesigned cover by **Sarah Trostle** and **Ayesha Saldanha** from Oxford University Press (OUP).

"For those who are familiar with our scientific journal, I hope you recognize our continued strengths in a new light," says **Xu-Liang Cao**, editor-in-chief of *J. AOAC Int.* "If you are new to the journal, I hope this fresh new cover attracts your attention and prompts you to browse the publication in detail. I invite you to consider publishing your important work in analytical science in the *Journal of AOAC INTERNATIONAL*."

With a new look, *J. AOAC Int.* marks a milestone in AOAC INTERNATIONAL's partnership with OUP that began in 2020 with the journal and extended in 2022 with publication of the latest edition of the *Official Methods of Analysis of AOAC INTERNATIONAL*.

"This is a new era of publishing for AOAC," said **Jennifer Diatz**, director of Publications. "As part of the scholarly community, OUP helps ensure that high-quality research is as widely circulated as possible to support education, research, and scholarship. Among other benefits, OUP has vast resources that enable AOAC publications to reach a much larger community."

Since the earliest issues of *J. AOAC Int.* were released in 1915 under the title *Journal of the Association of Official Agricultural Chemists*, the cover has been updated a few times, with each new one marking a change in the journal's name that reflected the evolution of the Association: *Journal of the Association of Official Analytical Chemists* in 1965 and currently *Journal of AOAC INTERNATIONAL* in 1992.

Because the current title of *J. AOAC Int.* may not be as self-explanatory with respect to the scope or discipline that the journal covers as the previous names, a tagline is introduced in the new design: "A Journal of Analytical Chemistry and Microbiology." Graphic elements of chemistry and microbiology are also incorporated into the cover design to visually communicate the disciplines of analytical sciences published in the journal. In keeping with AOAC INTERNATIONAL's history and identity, the new cover imagery retains the organization's logo and carries forward the globe image representing AOAC's international presence in the scientific community. At first glance, perhaps the most noticeable change is in the color scheme from primarily muted gold to various shades of purple, blue, and orange.

"The new cover evokes a new era of publishing for AOAC and communicates the scope and contents of the journal, which revolve around research in the analytical sciences, specifically chemistry and microbiology," Diatz said. "It's a great way to showcase the high-quality work being done and the latest scientific advances." ■

> **"If you are new to the journal, I hope this fresh new cover attracts your attention and prompts you to browse the publication in detail. I invite you to consider publishing your important work in analytical science in the *Journal of AOAC INTERNATIONAL*."**
>
> **— XU-LIANG CAO, EDITOR-IN-CHIEF OF *J. AOAC INT.***

ILM Goes Digital-Only

Beginning with the January/February 2024 issue, *Inside Laboratory Management* is switching to a digital-only platform. ILM will continue as an online member benefit, and subscribers and U.S. members will no longer receive a print copy of the membership magazine.

"After 27 years in print, the move to online-only just makes sense in today's digital world," said **Jennifer Diatz,** director of Publications, AOAC. "The shift will also save the Association the cost of printing and distributing the ILM."

With the November/December 2023 issue being the last printed magazine, AOAC looks back at the history of the ILM.

> **"After 27 years in print, the move to online-only just makes sense in today's digital world."**
>
> **— JENNIFER DIATZ, DIRECTOR OF PUBLICATIONS, AOAC**

As reported in *The Great Collaboration* by Kenneth Helrich, which chronicles the first 100 years of the Association, it was often suggested throughout its history that AOAC publish a newsletter. It wasn't until 1977 that the Association inaugurated a 4-page bimonthly bulletin, titled *The Referee.* The publication was a vehicle to provide news and information on AOAC meetings and activities and related events to members. It was well-received based on a report of the AOAC Editorial Board in 1979: "The Board affirmed unanimously that *The Referee* is an effective and valuable asset of the Association."

Over the next roughly 20 years, *The Referee* evolved and in 1997, AOAC published *Inside Laboratory Management* as its successor and a member benefit (*The Great Collaboration: 25 Years of Change, The History of AOAC INTERNATIONAL 1984-2009,* by Albert Pohland). The last stand-alone issue of *The Referee* was published in January 1997.

ILM incorporated *The Referee* newsletter as a department containing methods news. The first issue of ILM appeared in February 1997, with a cover story on "Robotics: Helping in the Measurements of Science."

As AOAC entered an exciting new phase as a third-party consensus-building body around 2008, capturing this important process was essential to provide credibility, defensibility, accessibility, and transparency in AOAC activities. In response, ILM increased its scope and expanded coverage of the work of the Association and standards development activities. Articles reported on determining method needs and priorities, establishing method performance requirements, and reaching consensus. Key to this effort was reporting on the work of stakeholder meetings, working groups, expert review panels, and other consensus-building activities.

The Referee

AOAC INTERNATIONAL
The Scientific Association Dedicated to Analytical Excellence®

January 1997 Volume 21, Number 1

Inside Laboratory Management

ROBOTICS Helping in the Measurements of Science

New AOAC Magazine on Laboratory Management Replaces *The Referee*

That's right! This is the last issue of *The Referee.* Next month, AOAC members will be receiving a new 4-color magazine, *Inside Laboratory Management.* But don't worry, the magazine is only an expansion of our newsletter. Methods news as well as news about AOAC activities and programs and similar information about related organizations worldwide will be incorporated into the magazine under a section, The Referee.

The magazine will actually expand our coverage of the ever-changing analytical world. Each issue will provide managers, supervisors, and technicians aspiring to a management level with timely, readable articles containing information on laboratory processes, regulations, scientific innovations, and technologies needed to stay current and knowledgeable about laboratory practices. It will be an "insider's guide" to laboratory management because the articles written will be by well-respected scientists known for their expertise on the issue being presented.

For example, our first issue will contain varying views of automation. Zymark, a major supplier of laboratory robotics, will offer "Five Command-

(continued on page 11)

Performance Tested Program Continues

The AOAC Research Institute announced on December 23, 1996, that the Performance Tested℠ kit evaluation program will continue in 1997. According to Scott Coates, the AOAC Research Institute Managing Director, the Institute met its financial goals of collecting at least two new kit review applications and 10 kit renewals of existing certified kits as well as securing 10 Contributing Member Organizations.

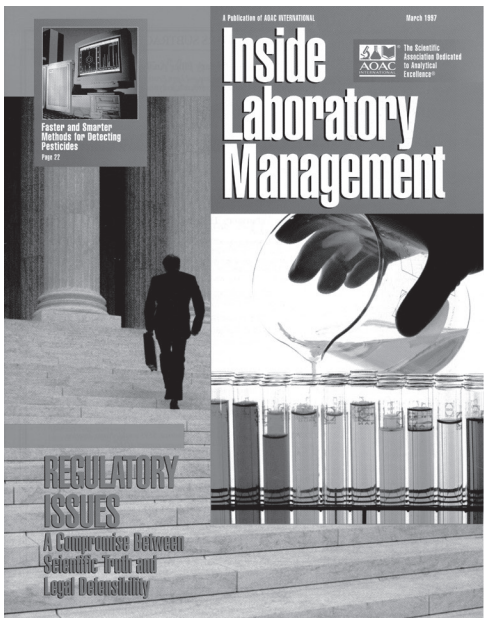
"These achievements are a result of efforts to implement the recommendations of the Research Institute Task Group and give new life to the Institute," said Coates. He explained that since last August, the Performance Tested program had been suspended and test kit applications were not being accepted for evaluation. The AOAC Research Institute had expected that the cost of creating the program would be recovered through the collection of administration and licensing fees. Unfortunately, this had not been the case, and the cost of operating the Performance Tested program had not been recovered by the Institute in any of the past 4 years. Another deficit year was expected in 1996.

Coates said that a Research Institute Task Group was, therefore, created this past September during the AOAC annual meeting in Orlando, Florida, USA, and was charged with developing a plan for the long-term continuation of the Performance Tested program. The following recommendations from this group were approved by the AOAC Research Institute Board of Directors on November 11, 1996:

- Creation of a new class of nonvoting, Contributing Member Organizations. The Organizations are eligible for discounted Research Institute services and products, including discounted application fees and participation in the newly created AOAC Research Institute Advisory Group. Dues from Contributing

(continued on page 4)

Last issue of ILM's predecessor, *The Referee*



A Publication of AOAC INTERNATIONAL March 1997

Inside Laboratory Management

AOAC The Scientific Association Dedicated to Analytical Excellence®

Faster and Smarter Methods for Detecting Pesticides Page 22

REGULATORY ISSUES A Compromise Between Scientific Truth and Legal Defensibility

An early issue of the ILM (March 1997)

Today, ILM continues to be a main and relevant source of AOAC news, keeping members up-to-date on the important work of the Association, including standards development, methods news, current and new initiatives, Sections, business strategies, meetings, and more. ■

OMA Online Updates to Enhance User Experience

AOAC and Oxford University Press (OUP), the publishing partner of the *Official Methods of Analysis of AOAC INTERNATIONAL* (OMA), 22nd Edition, are continuously working to provide the most up-to-date material and best user experience possible for OMA Online.

"This is a new era of publishing for AOAC," said **Jennifer Diatz,** director of Publications. "It is expected that the next few years will be a growth experience for the OMA, not only for our readership but for our subscribers. AOAC and OUP are committed to ensure that the high-quality content published in the OMA is easily accessible and as widely visible as possible to support education and research."

New and Updated Content

The OMA Online has recently been updated to include new and revised standards and methods. The new material reflects AOAC's standards development activities and features First and Final Action methods and *Standard Method Performance Requirements* (SMPRs®) approved since publication of the 22nd Edition of OMA earlier this year:

- Two First Actions method for infant formula
- One Final Action method for sugar profile
- One Revised First Action method (matrix extension) for *E. coli*
- Two minor modifications for *E. coli* and *Salmonella*
- Three new SMPRs for cannabis, botanicals and dietary supplements, and per- and polyfluoroalkyl substances (PFAS)
- One new guideline for standard requirements for nucleotide sequences used in biothreat agent detection, identification, and quantification: verified next-generation sequences (VNGS)
- One revised guidance for procedures and guidelines for the use of AOAC voluntary consensus standards to evaluate characteristics of a method of analysis

To view a list of changes and new content recently added to the OMA Online, visit https://www.aoac.org/wp-content/uploads/2023/09/OMA-Online-updates.pdf.

The OMA Online is updated regularly throughout the year as new material is adopted by AOAC INTERNATIONAL. For the most up-to-date content, subscribers should visit the OMA website at https://academic.oup.com/aoac-publications/book/45491.

Online Search Capability Enhancement

Stay tuned as changes are being implemented to improve the search functionality for OMA Online. For ease of use, these changes will take users directly to the methods. Subscribers must be signed into the online site in order to use this new feature.

For more information or to order, visit Oxford Academic at academic.oup.com/aoac-publications. ■

AOAC Develops New Project on Analysis of Ethylene Oxide Residues

After an informative and well-attended scientific forum in July 2023, AOAC is developing a new project on the analysis of ethylene oxide residues (ethylene oxide and 2-chloroethanol). A working group is being formed to reach consensus on *Standard Method Performance Requirements* (SMPRs®) for testing ethylene oxide residues in oil seeds and nuts; dried herbs and spices; food additives; dietary supplement products and ingredients; dried fruits and vegetables; and spice, flavor, and herbal extracts.

Ethylene oxide is a gaseous substance, historically used in the food industry as a fumigant because of its capability to disinfect without the use of heat treatment. However, it has been discontinued in most parts of the world due to its highly toxic nature. Maximum residue levels (MRLs) vary for different commodities, and regulations differ among countries. Some methods are available but are limited in scope. Opportunities exist for AOAC to provide analytical solutions for analysis of ethylene oxide residues.

The project is supported by an advisory panel representing the food, dietary supplement, technology provider, and testing lab industries (see sidebar). The working group will develop AOAC SMPRs based on priorities established by the advisory panel.

Get Involved: Call for Working Group Volunteers

AOAC is seeking volunteer subject matter experts to serve on the working group to develop voluntary consensus standards for ethylene oxide residues (ethylene oxide and 2-chloroethanol). If you are interested in participating, visit https://app.smartsheet.com/b/form/600be6fe80864da496ba0f9514e0282e and complete the AOAC volunteer form.

Standards development activities will be launched on January 9, 2024, led by co-chairs **Luis Georges Quintelas** (SQUALI) and **Lukas Vaclavik** (Eurofins Scientific). ■

Thank You

AOAC thanks the following Ethylene Oxide Working Group contributors:
Agilent Technologies
Eurofins Europe
Herbalife
Medallion Labs/General Mills
Nestlé
NOW Foods
Shimadzu Analytical (India) Pvt Ltd ■

Take Advantage of AOAC's Free Membership for Students

AOAC's complimentary Student Membership Program is designed to give students the opportunity to engage with AOAC INTERNATIONAL and leaders in the field to develop careers dedicated to analytical excellence. Any full-time student working toward an undergraduate or graduate degree in the areas of chemistry, microbiology, food science, or other related science is eligible for Student Membership in AOAC INTERNATIONAL.

Network and Collaborate

At the AOAC Annual Meetings, Student Members can attend workshops and symposia, participate in poster sessions, take advantage of the free job board to locate employment opportunities or post resumes, and join new fellow students at the New Member and First-Time Attendee Reception.

Make Valuable Professional Contacts

Throughout the year, AOAC sponsors meetings, workshops, and regional Section events, which offer valuable networking opportunities to get to know other AOAC members, build and expand professional contacts, and learn more about career experiences from those working in all areas of analytical sciences.

Save Money

Student Membership at AOAC is free. Student Members get a special student registration rate for AOAC Annual Meetings and member-discounted pricing on all AOAC products and services, including publications,

subscriptions, meetings, and training courses. New Student Members also receive a one-year complimentary membership to the AOAC Technical Division on Reference Materials (TDRM).

Apply for Student Awards and Scholarships

AOAC recognizes current students' research endeavors with student awards and scholarships. Winners receive travel and registration to that year's AOAC Annual Meeting and opportunity to present their research at the meeting, as well as a cash award. For more information on AOAC'S Student Awards Program, visit https://www.aoac.org/aoac-student-awards-program/.

Stay Current with *Inside Laboratory Management*

Student Members receive a complimentary subscription to *Inside Laboratory Management* and *Journal of AOAC INTERNATIONAL.* These resources provide up-to-date information on hot topics in the analytical sciences community, as well as news to stay current and knowledgeable about new methods and laboratory practices for chemical and microbiological analyses of food, drug, agricultural, and environmental matrices.

To join, visit https://www.aoac.org/membership/join-aoac-info/#JoinStudent. ■

Nominations Open for AOAC Student Awards

Nominations are open for student awards to be given at the 138th AOAC Annual Meeting and Exposition, August 23-29, 2024, in Baltimore, Maryland, USA.

Deadline for submissions is **March 29, 2024.** Previous student award winners in these categories are not eligible for further awards.

AOAC INTERNATIONAL/Eurofins Foundation "Testing for Life" Student Award

This AOAC Award, supported by contributions from the Eurofins Foundation, is designed to encourage student researchers who are advancing basic or applied science in analytical or molecular testing for food safety, food security, food defense, food authenticity, or health and environmental protection.

To learn more and apply, visit https://www.aoac.org/membership/awards/eurofins-foundation-aoac-testing-for-life-student-award/.

AOAC INTERNATIONAL/Herbalife Scholarship

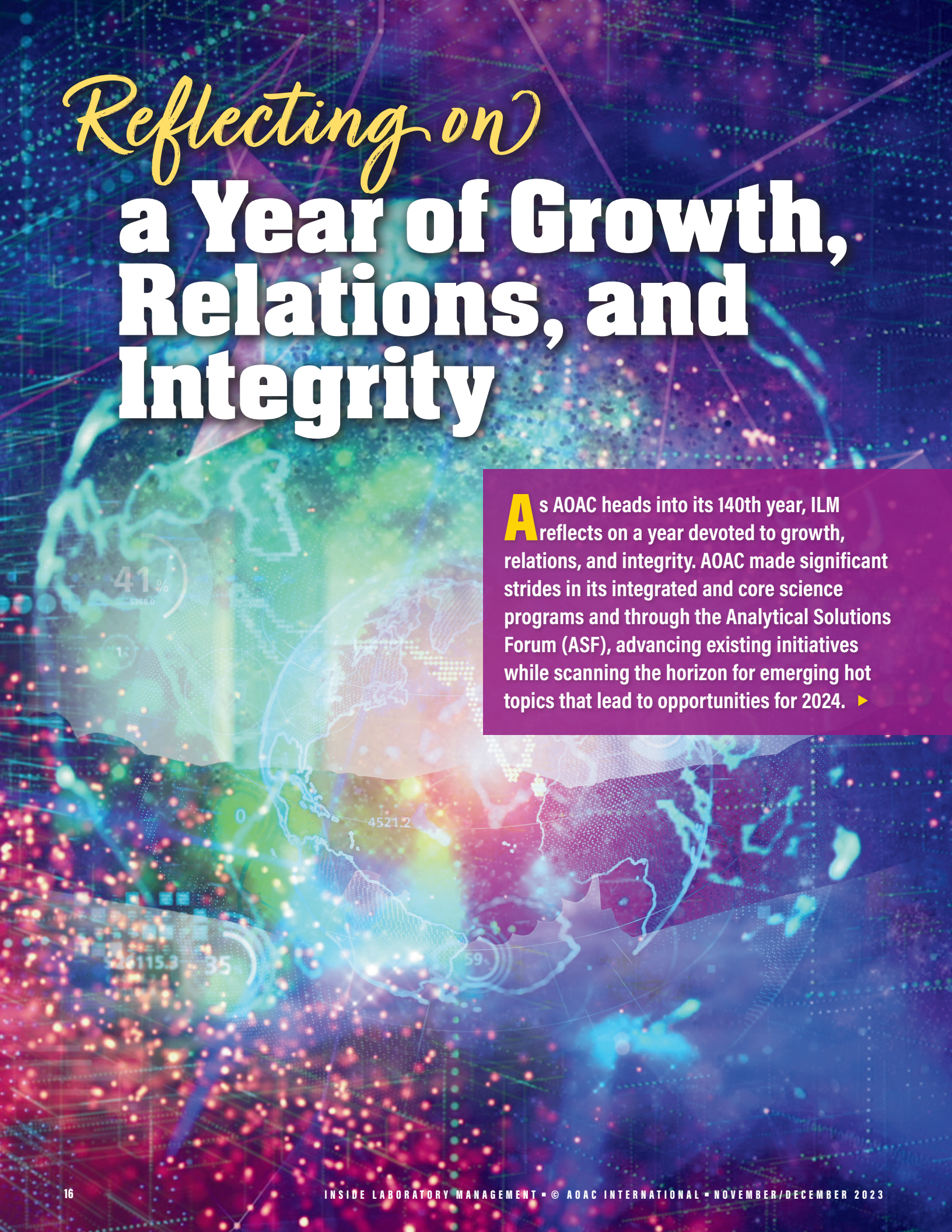
This student scholarship, supported by contributions from Herbalife, is designed to encourage student researchers who are advancing analytical or molecular (DNA) testing.

To learn more and apply, visit https://www.aoac.org/membership/awards/aoac-herbalife-student-scholarship/.

Technical Division on Reference Materials (TDRM) Award

The AOAC INTERNATIONAL Inés Cereijo TDRM Award is offered annually to both undergraduate and graduate students at any college or university to support students promoting awareness of the need for method performance evaluation early in a chemist's career, through the use of reference materials.

For more information, visit https://www.aoac.org/resources/tdrm-student-award-policy. To apply, visit https://form.jotform.com/232744842999171. ■



Reflecting on a Year of Growth, Relations, and Integrity

As AOAC heads into its 140th year, ILM reflects on a year devoted to growth, relations, and integrity. AOAC made significant strides in its integrated and core science programs and through the Analytical Solutions Forum (ASF), advancing existing initiatives while scanning the horizon for emerging hot topics that lead to opportunities for 2024. ▸

(l to r) The AOAC delegation comprised of Darryl Sullivan (Eurofins), Erik Konings (Nestlé), Kate Mastovska (AOAC), and Dustin Starkey (Abbott) ushered methods for amino acids, tryptophan, and vitamin B_{12} through for CCMAS endorsement in Budapest, Hungary, in June 2023.

After a comprehensive process, AOAC announced a new strategic plan at the beginning of the year to guide the organization through 2025. The core of AOAC's mission and vision remains the same, but, as part of the strategic planning process, it was refined to better reflect the heart of the Association's work. Under the new plan, the guiding vision is "global alignment for trusted analytical solutions." The organization's mission is to "advance food safety and product integrity through standards, validated test methods, and laboratory quality programs." A set of goals focused on growth, relations, and integrity serve as signposts to achieve AOAC's vision and mission.

AOAC was proactive in developing new science programs and delivering analytical solutions for global recognition—all part of implementing the Association's strategic plan. Among the many highlights, 2023 saw new AOAC *Official Methods*℠ for **amino acids, fluoride, biotin, acrylamide,** and **fatty acids** and *Standard Method Performance Requirements* (SMPRs®) for **pesticides** and **heavy metals** in cannabis-containing beverages, **pyrrolizidine alkaloids** (PAs), **per- and polyfluoroalkyl substances** (PFAS), **vanillin,** and selected residual solvents in **color additives.** In addition, AOAC published two standards on next-generation sequencing—amplicon sequencing and requirements for verification of sequences.

It was a year of continued growth, and AOAC had some fun along the way too, especially seeing members face-to-face at the Annual Meeting in New Orleans, Louisiana, USA. Thank you members, stakeholders, volunteers, and partners for making 2023 a success and for being part of the AOAC community. Here's a look at what AOAC was up to and where the Association is headed.

Standards Development and *Official Methods*℠

In support of its integrated science programs, AOAC delivered several new methods and SMPRs to address the most pressing issues identified as priorities by stakeholders (*see* above). In addition, AOAC working groups developed

The 2nd Annual AOAC Southeast Asia Section Conference in Ho Chi Minh City, Vietnam, in August 2023, featured a panel discussion on "Method Standardization—Key to Reducing Technical Barriers in Cross-Border Trade," with AOAC representatives Erik Konings (Nestlé) and DeAnn Benesh (Neogen).

ASF serves to spark innovation, inspire new ideas, and set the stage to advance these ideas into potential AOAC projects.

draft SMPRs for selected pesticides in crop-based colors from natural sources **(color additives),** *Listeria monocytogenes* in **cannabis-infused edibles, heavy metals,** *Salmonella* in **color additives** from natural sources, ***Cyclospora,*** and **amplicon sequencing,** which are all nearing completion.

Also in methods news, Final Action status was granted to methods for aloe vera, turmeric, sugars, lactose, veterinary drug residues, and sulfite in shrimp.

Core and Integrated Science Programs

AOAC continued to expand and grow its impact and relevance in the areas of infant formula and adult nutritionals, gluten and food allergens, botanical ingredients and dietary supplements, cannabis, biothreat detection, microbiology, chemical contaminants, and, more recently, novel foods from alternative protein sources.

Research Institute

In 2023, 19 new methods were granted *Performance Tested Methods*℠ (PTM) status, and 46 were approved as modifications of PTM certifications.

The AOAC Research Institute expanded the PTM Program scope to all user-based methods with a proprietary component, such as test kits, equipment device, columns/cartridges, software, etc. In addition, a new certification program, *Installation and Operational Qualification* (Q^2), was launched that provides an independent third-party review of instrument manufacturer-provided technical documents.

(Continued on page 18)

About 635 analytical science leaders from 32 countries gathered in New Orleans, Louisiana, USA, to share expertise, collaborate, and expand their networks and professional horizons at the first fully in-person Annual Meeting since the pandemic.

Proficiency Testing

AOAC's Laboratory Proficiency Testing Program (LPTP) and its test material provider Signature Science LLC sent the first >0.3% THC cannabis samples for PT to laboratories. In this first pilot round of cannabis samples, labs were able to analyze and report on 18 cannabinoids and total THC, CBD, and CBG; 33 terpenes, moisture, and water activity; and 12 heavy metals.

AOAC LPTP has been developing more offerings for the Cannabis/Hemp PT Program. A Microbiology Contaminants PT Program will be offered in hemp and cannabis (>0.3% low, medium, high THC) dried flower/biomass samples. A pilot round study with hemp-only samples is planned for February 2024, with cannabis samples to follow. Activities on the horizon include expanded chemistry matrices (edibles and oils) and more methods (residual solvents and foreign material).

In addition, LPTP continued to develop new programs based on participant feedback and/or regulatory requirements. The *Listeria* Environmental Swab PT Program is now covered by AOAC's scope of accreditation. Also, lactic acid bacteria were added to the Pathogen-Free Program and water activity to the Cheese Chemistry Program.

Analytical Solutions Forum

ASF continues to be a valuable platform to advance existing programs, scan the horizon for the analytical needs of tomorrow, and bring in new ideas to drive new program development. Through ASF, AOAC and stakeholders explored emerging hot topics, such as **novel foods from alternative protein sources, ethylene oxide, *Legionella*, metagenomics, mushrooms,** and **pathogen quantitation**. Some of these have been developed into new initiatives that will be launched at the beginning of the year and others are also gaining momentum and support as potential new projects for 2024.

Infant Formula

Through international adoption of methods, the AOAC Stakeholder Program on Infant Formula and Adult Nutritionals (SPIFAN) activities in Codex continue to place AOAC at the forefront and help increase opportunities for AOAC methods to gain global relevance and impact the infant formula community. In November 2023, AOAC Final Action methods for total amino acids **(2018.06),** tryptophan **(2017.03),** and vitamin B_{12} **(2014.02)** were adopted by the Codex Alimentarius Commission at its 46th Session, representing the latest in a series of AOAC SPIFAN methods to be adopted as Codex Standards.

AOAC SPIFAN's collaboration with China continued with the GB evaluation and standards comparison studies with support from the AOAC China Section. Method comparison studies are underway for fatty acids, vitamin C, MCPD esters/glycidyl esters, acrylamide, and galacto-oligosaccharides, among others. In addition, standards development activities for vanillin were a regional collaboration with the AOAC China Section.

AOAC is in the early stages of forming a working group to develop voluntary consensus standards for milk fat globule membrane, a new topic that was introduced this year.

Biothreat Detection

The Stakeholder Program on Agent Detection Assays (SPADA), AOAC's longest standing stakeholder program, celebrated its "Sweet 16" years of successful collaboration to build a standard program for development, validation, and use of threat agent detection technologies. To this day, the initiative continues to be extended to other priority agents and technologies.

In 2023, SPADA reached consensus on new guidelines for "Standard Requirements for Nucleotide Sequences Used in Biothreat Agent Detection, Identification, and Quantification: Verified Next-Generation Sequences (VNGS)" and "Amplicon Sequencing Minimal Information (ASqMI): Quality and Reporting Guidelines for Actionable Calls in Biodefense Applications."

AOAC SPADA working groups are developing SMPRs for amplicon sequencing assays and validation guidelines for amplicon sequencing methods.

Cannabis and Hemp

The AOAC Cannabis Analytical Science Program (CASP) Microbiology Working Group developed draft validation guidelines to provide comprehensive technical guidance for conducting microbiological method validation studies for analysis of cannabis and cannabis products and draft SMPRs for detection and enumeration of *Listeria monocytogenes* in cannabis-infused edibles to address analytical gaps in methodology and regulatory requirements. Both were posted on the AOAC website for public comments.

In addition to publication of SMPRs for determination of pesticides and heavy metals in cannabis-containing beverages, CASP has launched a pesticide method "Think Tank," a community-based, step-by-step mechanism

for methods development and sharing of best practices.

Gluten and Food Allergens

Working groups for the AOAC Gluten and Food Allergens (GFA) Program developed method validation guidance for both gluten and food allergens. "Guidelines for Validation of Qualitative Gluten Methods, with Specific Examples of Lateral-Flow Devices" were approved and "Guidance on Food Allergens Immunoassay Validation" was posted on the AOAC website for public comment and is nearing consensus.

After completion of comprehensive

(Continued on page 20)

More Happenings at AOAC in 2023

AOAC entered into liaison agreement with ISO/TC 134 (Fertilizers, Soil Amendments, and Beneficial Substances). In addition, AOAC and ISO renewed the cooperation agreement for joint development and approval of common standards and methods in ISO/TC 34 (Food Products) (*see* page 4 of this issue).

- AOAC scientists **Kate Mastovska,** deputy executive director and chief science officer; **Erik Konings,** AOAC member and past president; and **Deborah McKenzie,** deputy assistant executive director and chief standards officer were among the experts and resources who contributed to the World Health Organization's simplified protocol for measuring *trans* fatty acids.
- Mastovska highlighted AOAC standards development activities to address gaps in PFAS analysis at the PFAS Summit in February 2023, American Oil Chemists' Society Annual Meeting in April/May 2023, and Joint Institute for Food Safety and Applied Nutrition JIFSAN-CFS3 Advisory Council Annual Symposium in October 2023.
- The March 2023 issue of *Wiley Analytical Science Magazine* featured AOAC CASP and its projects. In the interview, the AOAC CASP leadership team, including **Shane Flynn,** senior director of the AOAC LPTP, and **Scott Coates,** senior director of the AOAC Research Institute, examined the importance of standardized methods and proficiency testing within the cannabis industry, provided a look at work done by CASP working groups, and stressed the impact of CASP and its projects on the cannabis industry.
- AOAC LPTP gave several presentations at the Cannabis Science Conference in April 2023, as well as submitted a joint poster with Signature Science LLC showcasing results of a pilot test to successfully develop representative, ready-to-analyze method-agnostic PT samples for cannabis and hemp testing laboratories.
- Also in April 2023, Mastovska presented on "AOAC INTERNATIONAL Programs Addressing Analytical Needs in Botanical Ingredients and Dietary Supplements" during the 21st Annual Oxford International Conference on the Science of Botanicals.
- AOAC and A2LA presented a joint complimentary webinar in May 2023 on how to improve instrument documentation quality and service and enhance ISO 17025 lab accreditation.
- AOAC Executive Director **David Schmidt** provided comments in June 2023 during the U.S. Food and Drug Administration Listening Session on Cosmetic Products GMPs, urging the agency to reference the use of AOAC methods and technically equivalent standards in rulemaking and guidance documents.
- Mastovska became a liaison to the MicroVal General Committee. Also, she and **Maria Nelson,** AOAC technical consultant, were selected as new liaison representatives to ISO/TC 34/SC 9/WG 3 to lead AOAC in playing a role in coordinating harmonized food safety standards between AOAC and ISO.
- For the plenary sessions of ISO/TC 276 (Biotechnology) and ISO/TC 34/SC 9 (Microbiology) in June 2023, AOAC provided liaison reports that highlighted AOAC work related to these committees, including AIMS development of SMPRs for *Cyclospora* and SPADA development of standard guidelines and SMPRs for next-gen sequencing (NGS) method detection approaches.
- AOAC representatives showcased AOAC programs and publications at the International Association for Food Protection (IAFP) annual meeting in July 2023.
- **Pam Coleman,** AOAC's chief innovation officer, gave the keynote address at the National Seasoning Manufacturers Association's 50th anniversary event in July 2023, titled "The State of Methods for FDA Compliance and the Role Played by AOAC: Contaminants, Nutrients, Allergens and More."
- Mastovska presented on "Method Development and Validation—AOAC's Perspective and Initiatives Focused on Residues and Contaminants" during the North American Chemical Residue Workship in July 2023.
- AOAC hosted an inaugural training course exclusively for Cannabis Regulators Association (CANNRA) members in August 2023, designed to provide training and education on AOAC SMPRs and conformity assessment processes.
- AOAC was part of a panel discussion during the Institute for Food Safety and Health (IFSH) Annual Meeting in September 2023. McKenzie gave a presentation on method validation with a focus on chemical contaminant analysis.
- In October 2023, McKenzie gave a presentation on AOAC's work on next-generation sequencing at the Forum for Food Microbiology.
- McKenzie and AOAC's certified standards professional, **Delia Boyd**, senior manager, Standards and *Official Methods*^{SM}, represented AOAC at the inaugural ANSI U.S. Government and Standards Developing Organizations in November 2023.
- In November 2023, Mastovska gave a keynote address at the 41st International Conference on Environmental and Food Monitoring (ISEAC-41) in Amsterdam, the Netherlands. The AOAC Europe Section workshop on "Best Practices for Bioassay Testing of Food and Other Complex Mixtures" was conveniently organized in conjunction with this meeting.
- In support of the new charge for the National Advisory Committee on Microbiology Committee for Food (NACMCF) to have a focus on genomics, McKenzie offered prepared comments during the public meeting of NACMCF in November 2023, highlighting AOAC's work in developing standards for next-generation sequencing.
- AOAC and Cannabis Science and Technology hosted a virtual symposium on "Microbial Testing in Cannabis: Basics, Guidance, and Applications" in December 2023.
- Also in December 2023, AOAC scientists **Constance Bahr** and Flynn presented and participated on panels during the Global Retailer and Manufacturer Alliance (GRMA) Summit. Flynn also presented on the many benefits of proficiency testing and educational sample programs, the use of these programs for continuous laboratory quality, and their role in a product integrity program. ■

technical guidelines for conducting validation studies for gluten and food allergen methods, the working groups plan to develop guidance for end users.

AOAC Executive Director David B. Schmidt (at podium) with (l to r) John Szpylka (AOAC past-president), Brendon Gill (editorial board member), John Spink (keynote speaker), and Michelangelo Anastassiades (Wiley Award winner)

Alternative Methods

A working group for the AOAC Analytical International Methods and Standards (AIMS) Program developed SMPRs for detection, identification, and characterization of *Cyclospora cayetanensis,* which is nearing completion. A new initiative focused on detection of *Legionella* will be launched early next year.

Botanicals and Dietary Supplement

In support of the AOAC Botanical Ingredients and Dietary Supplement Integrity (BIDSI) Program, SMPRs were approved for 35 PAs in teas, herbal infusions, dried herbs, seed spices, honey, and botanical dietary supplements and ingredients. Stakeholders are interested in developing standards for botanical identity verification and also identified the growing popularity of mushrooms as an opportunity to develop standards and validate methods to address variability, ensure product quality and safety, and meet label claims, among other needs.

Sections

AOAC Sections are critical partners in helping the Association identify emerging analytical challenges from around the globe. Engagement of Sections in standards development and methods alignment activities helps grow AOAC at an international level. Section initiatives supported by AOAC INTERNATIONAL in 2023 included the AOAC Europe Section workshop on bioassays and initiation of the AOAC Southeast Asia work on pesticide residues in herbs and spices and cyanide in cassava and other food materials. In an effort to foster increased participation and engagement, the AOAC Board of Directors approved a recommendation from the Committee on Sections to consolidate North American Sections into better-defined regional groups.

Publications

New Edition of OMA

In February 2023, the latest edition of the OMA compendium entered a new era of publishing online for the first time on Oxford Academic, allowing AOAC *Official Methods*℠ and standards to be more accessible than ever. Today the OMA has grown to a comprehensive collection of nearly 3,100 validated methods and 160 consensus standards recognized worldwide.

J. AOAC Int.

The scope of the *Journal of AOAC INTERNATIONAL* was expanded

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Thank you 2023 AOAC Champions

Agilent Technologies is a worldwide provider of GC, LC, MS, and spectroscopy instruments, technologies, related consumables, support, services, and workflow solutions that enable labs to analyze, confirm, and quantify substances of interest with confidence while maintaining stringent laboratory practices, from sample preparation to final report.

ELISA Technologies kits have set the standard for meat speciation in food and feed while maintaining a full-service testing laboratory for allergens. EZ Gluten rapid test obtained AOAC *Performance Tested Method*℠ (PTM) certification for gluten tests.

MilliporeSigma advances the safety and analysis of foods, beverages, and cannabis using trusted brands like Millipore®, Supelco®, Milli-Q®, and Sigma Aldrich to support every stage of laboratory workflows.

From the launch of the first-ever commercially successful triple quadrupole mass spectrometer in 1981, **SCIEX** has empowered its customers to break new ground in food safety and compliance testing.

Shimadzu supports the food, cannabis, and hemp industry with an extensive portfolio of instrumentation, including UHPLC, LC-MS/MS, GC-MS/MS, ICP/MS, FTIR, UV-Vis, AA/ICP, EDXRF, MALDI-TOF, and analytical balances, designed to address specific laboratory workflows that generate reliable data to protect customers and brands.

Thermo Fisher Scientific™ is a leader in the food and beverage testing industry, providing innovative and comprehensive solutions for food safety, food quality, and food integrity.

Waters Corp. is a leading specialty measurement company focused on improving human health and well-being through the application of high-value analytical technologies and industry-leading scientific expertise.

AOAC *OFFICIAL METHODS*℠ NEWS

AOAC ERP for SPIFAN Adopts Modification to Folate Method

On November 15, 2023, the AOAC Expert Review Panel (ERP) for Stakeholder Program on Infant Formula and Adult Nutritionals (SPIFAN) Nutrient Methods, chaired by **Darryl Sullivan,** Eurofins Food Integrity and Innovation, approved *Official Method*℠ **2011.06** (Total Folates in Infant Formula and Adult Nutritionals by Trienzyme Extraction and UPLC-MS/MS Quantitation) for modification. The revisions further improve method clarity and include additional sources for chemicals/reagents, both of which benefit method users.

Submitted by Silliker/Mérieux NutriSciences, the LC–MS/MS method for total folate analysis incorporates trienzyme extraction and extract purification by weak anion exchange (WAX) solid-phase extraction (SPE). The method was approved by AOAC as Final Action in 2018 and is recognized by Codex as a Type II (Reference Method) International Standard. In addition, the method was adopted by the International Organization for Standardization (ISO) as ISO Standard 20631 in support of the AOAC/ISO cooperation agreement for joint development and approval of common standards.

As presented by **Erik Konings,** Société des Produits Nestlé, chair of the AOAC Working Group on Folate (Folic Acid), the modifications are based on ISO comments to enhance clarity and

provide additional sources for some of the critical chemicals/reagents used in the method. Because some chemicals/reagents are not readily available, alternative sources of one of the internal standards and conjugase substrate are provided. Performance of the alternative source of conjugase should be checked as prescribed in the method. It is expected that it will not affect method performance.

The ERP reached consensus that most of the revisions are editorial and do not affect the method's performance. The method is well written, comprehensive, and provides valuable method performance information. Study results show that the method is accurate, precise, and reproducible for the analysis of total folate in a wide range of infant formulas and adult nutritionals. The ERP agreed that the method continues to acceptably meet AOAC *Standard Method Performance Requirement* (SMPR®) 2011.006 for folate, is fit-for-purpose, and continues to perform as expected with good feedback. The method is suitable for routine compliance testing and as a reference method to demonstrate product compliance in relation to folate levels against relevant regulations or guidelines and specifications.

Study results show that the method is accurate, precise, and reproducible for the analysis of total folate in a wide range of infant formulas and adult nutritionals.

Next Steps

The approved modification will be published in the *Official Methods of Analysis* print and online products.

The next SPIFAN meeting will be held during the AOAC Midyear Meeting in March 2024. ■

AOAC *OFFICIAL METHODS*℠ NEWS

AOAC ERP Advances Food Microbiology Pathogen Methods for Modification and Final Action Recommendation

Co-chaired by **Danièle Sohier,** Thermo Fisher Scientific, and **Catharine Carlin,** Mérieux NutriSciences, the AOAC Expert Review Panel (ERP) for Microbiology Methods for Food and Environmental Surfaces approved three modifications to AOAC *Official Methods*℠ for *Salmonella, Listeria,* and *L. monocytogenes.* In addition, the original versions of these methods (excluding the new modifications) were recommended for Final Action status.

Thank You

AOAC thanks the ERP for Microbiology Methods for Food and Environmental Surfaces for its expertise, thoroughness, and timeliness in reviewing manuscripts:

Catharine Carlin, Mérieux NutriSciences (Co-chair)
Danièle Sohier, Thermo Fisher Scientific (Co-chair)
Maya Achen, Abbott Nutrition
Mark Carter, MC Squared
Yi Chen, U.S. Food and Drug Administration (FDA)
Peyman Fatemi, Institute of Environmental Health
Maria Cristina Fernandez, University of Buenos Aires
Andrew Flannery, Smiths Detection
Thomas Hammack, FDA Center for Food Safety and Applied Nutrition (CFSAN)
Andrew Lienau, MilliporeSigma
Wendy McMahon, Mérieux NutriSciences
Christophe Quiring, Bio-Rad
Jonathan David Tuya Salas, Instituto Nacional de Calidad (INACAL)
Ashley Trueheart, Eagle Analytical
Alexandra Tudor, TEQ Analytical Labs
Jessica Williams, Thermo Fisher Scientific
Lei Zhang, Neogen Corp. ■

On November 14, 2023, each method was thoroughly evaluated by members of the ERP (see sidebar). Based on its collective expertise, the ERP reached consensus that the methods meet the performance, scope, and applicability claims of the method authors/developers in accordance with AOAC guidelines.

The ERP approved a group modification submitted by Thermo Scientific to extend the scope to include an automated lysis and PCR setup procedure in SureTect workflows:

- *Official Method*℠ **2021.02** *Salmonella* Species in a Broad Range of Foods and Selected Environmental Surfaces, Thermo Scientific SureTect Salmonella PCR Assay








- *Official Method*℠ **2021.05** *Listeria monocytogenes* in a Broad Range of Foods and Selected Environmental Surfaces, Thermo Scientific SureTect Listeria monocytogenes PCR Assay
- *Official Method*℠ **2021.06** *Listeria* species in a Broad Range of Foods and Selected Environmental Surfaces, Thermo Scientific SureTect Listeria species PCR Assay

Comparison studies (matrix-assay combinations) were performed to determine equivalency of the automated vs manual lysis procedure. Statistical analysis was satisfactory, and results showed that there was no significant difference. In general, the ERP agreed that the modifications are well written and straightforward, with detailed information.

In addition, the ERP recommended these methods, which were adopted in 2021, for Final Action status, applicable to the original manual workflow only. First Action methods are tracked for a maximum of 2 years during which time demonstrated method reproducibility and user feedback on method performance are among ERP requirements to recommend methods for Final Action status. The ERP reached consensus that the methods are fit-for-purpose and continue to perform as expected.

Next Steps

The approved modifications, which retain their First Action status, will be published in the *Journal of AOAC INTERNATIONAL* and *Official Methods of Analysis* print and online products.

Methods recommended for Final Action status are reviewed for possible adoption by the AOAC Official Methods Board.

The next meeting of the ERP for Microbiology Methods for Food and Environmental Surfaces is scheduled for April 16, 2024. ■

Reflecting on a Year of Growth, Relations, and Integrity

Continued from page 20

to include a new section on "Food Authenticity/Food Fraud, Food Allergens."

A published open access review article on measurement of dietary fiber garnered 4,013 views and five citations from *J. AOAC Int.*'s online site at Oxford Academic, making it the most viewed article in 2023.

Annual Meeting

This year, AOAC returned to hosting the Annual Meeting and Exposition entirely in-person. In addition to a full schedule of meetings and technical sessions, AOAC held a community networking mixer and women's networking social. Both events were new to the Annual Meeting program based on member feedback and interest in more opportunities to come together.

Advances made at the Annual Meeting will continue throughout winter 2023/2024, with updates provided at the AOAC Midyear Meeting in March 2024.

AOAC App

With the launch of the AOAC app, members can stay connected and engaged year-round. The app was designed to serve as a central communications hub and an all-in-one event platform. Users can easily access member benefits, latest news and resources, meetings, and more. The interactive AOAC app further improves communications.

Opportunities in 2024

The importance and contributions of AOAC and its members and stakeholders continue to rise, and this past year was no different. AOAC keeps the momentum going as it heads into 2024 by launching new working groups on ethylene oxide residues, *Legionella* in water, milk fat globule membrane in infant formula and adult nutritionals, and end-user guidance for gluten and food allergen test kits. AOAC also started formation of a new program focused on novel foods from alternative protein sources, with amino acid analysis as the first priority project identified by stakeholders. Other initiatives are also under development.

For more information or to participate, visit https://www.aoac.org/aoac-science-and-supporting-programs/. ■

Standards and Methods News

(Reflects new and ongoing standards and methods activities as of December 1, 2023.)

AOAC Standards Development Program

AOAC INTERNATIONAL voluntary consensus standards are developed in accordance with the U.S. National Technology Transfer and Advancement Act (PL 104-113) and U.S. Office of Management and Budget Circular A-119. Standards activities are fully transparent and open. The Official Methods Board (OMB) accounts for balance and lack of dominance. Consensus is documented and processes are in place to ensure due process and the opportunity to present appeals. Resulting AOAC standards are published.

Official Methods^{SM} Program

In spring 2011, the AOAC INTERNATIONAL Board of Directors approved a new process to Official First Action method status. This dynamic aligned approach incorporates AOAC standards development as an integral part of AOAC Official Methods^{SM} *output. As part of this process, expert review panels (ERPs) adopt methods as Official First Action and remain intact to monitor the methods during the 2-year period between First and Final Action consideration. During this time, ERPs assess the performance of methods against the standards as adequate method reproducibility and other ERP- and stakeholder-based method criteria are demonstrated. ERPs must make a recommendation on method status to the OMB no later than 2 years after First Action status. The OMB will determine Final Action method status.*

The AOAC Official Methods^{SM} *Program is designed to provide needed evaluated methods that can be used with confidence by regulated industry, regulatory agencies, contract research organizations and testing laboratories, and academic institutions. Official Methods*^{SM} *undergo rigorous scientific scrutiny and demonstrate the highest level of confidence in a method.*

Official Methods^{SM} *are published in the Official Methods of Analysis of AOAC INTERNATIONAL and supporting manuscripts are published in the Journal of AOAC INTERNATIONAL.*

Method submissions must include a manuscript in AOAC format. This format includes formatting of the method under consideration within the manuscript. Method authors will still be able to submit data files. These requirements are mandatory for methods being considered for either First Action or Final Action status. Examples may be found at www.aoac.org. Contact ***Deborah McKenzie****, deputy assistant executive director and chief standards officer, at dmckenzie@aoac.org for any questions on method submission requirements.*

Official Actions and Changes in Status

Changes to standards and Official Methods^{SM} *are documented. Notice of standards activities and changes in Official Methods status are listed.*

Any interested party may submit comments in writing. To comment, or for additional information, contact **Deborah McKenzie,** deputy assistant executive director and chief standards officer, AOAC INTERNATIONAL, 2275 Research Blvd, Suite 300, Rockville, MD 20850-3250, USA, Tel: +1-301-924-7077 ext. 157, Fax: +1-301-924-7089, e-mail: dmckenzie@aoac.org.

Performance Tested Methods^{SM} Program

The AOAC Performance Tested Methods^{SM} *(PTM) Program began in 1992 and has evolved into a premier method certification program for proprietary methods. Methods certified as Performance Tested*^{SM} *were found to perform according to the manufacturer's documented claims and are used throughout the global market place and within the regulatory arena. The PTM Program offers certification as an endpoint for method evaluation or as an entry to method validation for programs requiring increased confidence and method reproducibility information. PTM certification includes licensing the method developer to use the Performance Tested*^{SM} *certification mark. PTM certifications undergo an annual or periodic review and renewal. PTM certificates in good standing are accessible on the AOAC website.*

Installation and Operational Qualification (Q^2*)* Program

The Installation and Operational Qualification (Q^2*) validation program from the AOAC Research Institute is designed to offer an independent third-party review of instrument manufacturer-provided technical documents, including preinstallation, installation, operational, familiarization training, and preventative maintenance documentation for instrument system checklists and user manuals, providing a higher level of confidence for laboratories purchasing and installing new analytical equipment. The Q*^{2} *Program is a certification of documents, not a certification or endorsement of instrument systems.*

For additional information, contact **Scott Coates,** senior director, AOAC Research Institute, AOAC INTERNATIONAL, 2275 Research Blvd, Suite 300, Rockville, MD 20850-3250, USA, Tel: +1-301-924-7077 ext. 137, Fax: +1-301-924-7089, e-mail: scoates@aoac.org; or **Nora Marshall,** manager, AOAC Research Institute, AOAC INTERNATIONAL, 2275 Research Blvd, Suite 300, Rockville, MD 20850-3250, USA, Tel: +1-301-924-7077 ext. 129, Fax: +1-301-924-7089, e-mail: nmarshall@aoac.org.

AOAC STANDARDS IN PROGRESS

Standards Launching or in Progress

[Working groups formed or under formation to draft proposed standards or SMPRs®.]

Analytical International Methods and Standards (AIMS) Program
Working Group on Nonculturable Organisms

Cannabis Analytical Science Program (CASP)
Working Group on Microbial Contaminants

Ethylene Oxide
Working Group on Ethylene Oxide Residues

Food Authenticity Methods (FAM) Program
Working Group on Molecular Applications

Gluten and Food Allergen (GFA) Methods Program
Working Group on Food Allergens

Heavy Metals
Working Group on Heavy Metals in Foods

Natural Colors

Working Group on Color Additives from Natural Sources

Working Group on Microbial Contaminants in Color Additives from Natural Sources

Stakeholder Program on Agent Detection Assays (SPADA)

Working Group on NGS Detection Method Standards

Stakeholder Program on Infant Formula and Adult Nutritionals (SPIFAN)

Working Group on Milk Fat Globule Membrane (MFGM)

Draft Standards/Guidance Developed and Posted for Comment

[Draft standards/guidance developed by working groups and posted on the AOAC website for public comment for a minimum of 30 days. Draft standards/guidance are reviewed by the respective stakeholders for possible approval.]

"Guidance on Food Allergens Immunoassay Validation" (GFA)

SMPR® for Detection and/or Enumeration of *Listeria monocytogenes* in Cannabis-Infused Edibles (CASP)

Draft Standards Ready for Community Consensus

[Draft standards/guidance developed by working groups, reviewed by the respective stakeholders, and advanced to next step for possible consensus approval by wider community.]

"AOAC INTERNATIONAL Guidelines for Validation of Microbiological Methods for Cannabis and Cannabis Products" (CASP)

SMPR® for Determination of Trace Elemental Contaminants in Food and Beverages (Heavy Metals)

Standards Approved

[Voluntary consensus standards established and approved by AOAC stakeholders. Standards are published by AOAC INTERNATIONAL in the Official Methods of Analysis (OMA) online (https://academic.oup.com/aoac-publications/book/45491) and print products.]

AOAC SMPR® 2023.001 Pesticides in Cannabis-Containing Beverages (CASP)

AOAC SMPR® 2023.002 Pyrrolizidine Alkaloids in Teas, Herbal Infusions, Dried Herbs, Seed Spices, Honey, and Botanical Dietary Supplements and Ingredients (BIDSI)

AOAC SMPR® 2023.003 Per- and Polyfluoroalkyl Substances (PFAS) in Produce, Beverages, Dairy Products, Eggs, Seafood, Meat Products, and Feed (PFAS in Foods)

AOAC SMPR® 2023.004 Selected Residual Solvents in Color Additives from Crop-Based Sources (Color Additives from Natural Sources, Residual Solvents Subgroup)

AOAC SMPR® 2023.005 Heavy Metals in Cannabis-Containing Beverages (CASP)

AOAC SMPR® 2023.006 Vanillin, Ethyl Vanillin, Methyl Vanillin, and Coumarin in Infant Formulas and Their Ingredients (SPIFAN)

AOAC SMPR 2023.007 Selected Pesticides in Crop-Based Colors from Natural Sources (Color Additives from Natural Sources, Pesticide Residues Subgroup)

Appendix T: "Standard Requirements for Nucleotide Sequences Used in Biothreat Agent Detection, Identification, and Quantification: Verified Next-Generation Sequences (VNGS)" (SPADA)

"Laboratory Guidance—Drying Field Fresh Hemp Plant Samples in Preparation for Determination of Total THC on a Dry Weight Basis" (CASP)

"Guidelines for Validation of Qualitative Gluten Methods, with Specific Examples of Lateral-Flow Devices" and Annexes A-D (GFA)

"Amplicon Sequencing Minimal Information (AsqMI): Quality and Reporting Guidelines for Actionable Calls in Biodefense Applications" (SPADA)

(Visit the AOAC website for issued Calls for Methods and Calls for Experts.)

AOAC METHODS IN PROGRESS

Methods to Be Reviewed by AOAC ERPs for *Official Methods℠* Status/Recommendation

[According to AOAC Bylaws, AOAC is to provide notification of candidate methods to be reviewed for Official Methods℠ status /recommendation.]

Methods Submitted for Modification

932.14 Solids in Syrups*

988.06 Specific Gravity of Beer and Wort

*Sole source submission proposed modification posted on AOAC website for comment and feedback for a minimum of 30 days.

Methods Submitted for Final Action Recommendation

2017.08 Total Sulfur in Fertilizer [*J. AOAC Int.* **97,** 731–735(2014)]

Methods Adopted as First Action *Official Methods℠*

[Fit-for-purpose methods reviewed and approved by an AOAC ERP based on (1) evaluation against SMPRs®, (2) appropriate studies conducted, and/or (3) AOAC technical requirements. Methods are sorted here according to broad scientific community areas. AOAC Official MethodsSM are published in the OMA print and online (https://academic.oup.com/aoac-publications/book/45491) products and the Journal of AOAC INTERNATIONAL.]

Acrylamide

2023.01 Acrylamide in Coffee, Cereals, Baby Food, Cocoa, Dry Pet Food, Potato Products, Vegetable Crisps, Biscuit, Tea, Nuts, and Spices (in process)

Method Modifications/Method Extensions Approved

[First Action Official Methods℠ approved by an AOAC ERP for modification or extension. AOAC Official Method℠ modifications and extensions are published in the OMA print and online (https://academic.oup.com/aoac-publications/book/45491) products.]

2011.06 Total Folates in Infant Formula and Adult Nutritionals (https://doi.org/10.5740/jaoacint.18-0114) (approved by ERP in November 2023)

2021.02 *Salmonella* species in a Broad Range of Foods and Selected Environmental Samples by SureTect™ *Salmonella* species PCR Assay (https://doi.org/10.1093/jaoacint/qsab122) (approved by ERP in November 2023)

2021.05 Detection of *Listeria monocytogenes* in a Broad Range of Foods and Selected Environmental Surfaces (https://doi.org/10.1093/jaoacint/qsac027) (approved by ERP in November 2023)

2021.06 Detection of *Listeria* species in a Broad Range of Foods and Selected Environmental Surfaces (https://doi.org/10.1093/jaoacint/qsac044) (approved by ERP in November 2023)

Methods Downselected for Final Action Consideration

[For SPIFAN, ERPs recommended that reproducibility be demonstrated for these First Action Official Methods℠ for consideration as Final Action status.]

2011.11 Vitamins D_2 and D_3 in Infant Formula and Adult/Pediatric Nutritional Formula (http://dx.doi.org/10.5740/jaoacint.CS2011_11)

2012.20 Choline in Infant Formula and Adult Nutritionals (http://dx.doi.org/10.5740/jaoacint.13-177)

2016.06 Fructans in Infant and Adult/Pediatric Nutritional Formula (http://dx.doi.org/10.5740/jaoacint.16-0190)

(Continued on page 26)

Methods Recommended for Final Action Status

[First Action Official Methods℠ recommended by an ERP for a status change based on additional studies and/or method feedback.]

2005.02 Total Monomeric Anthocyanin Pigment Content of Fruit Juices, Beverages, Natural Colorants, and Wines

2008.03 Total Soy Isoflavones in Dietary Supplements, Supplement Ingredients, and Soy Foods

2011.03 *Salmonella* in a Variety of Food [*J. AOAC Int.* **94,** 1821(2011)] (recommended by ERP for Microbiology Methods for Food and Environmental Surfaces in June 2023)

2021.01 β-Galactooligosaccharides (GOS) in Infant Formula and Adult Nutritionals (https://dx.doi.org/10.1093/jaoacint/qsab095)

2021.02 *Salmonella* species in a Broad Range of Foods and Selected Environmental Samples by SureTect™ *Salmonella* species PCR Assay (for manual workflow only) (https://doi.org/10.1093/jaoacint/qsab122) (approved by ERP in November 2023)

2021.05 Detection of *Listeria monocytogenes* in a Broad Range of Foods and Selected Environmental Surfaces (for manual workflow only) (https://doi.org/10.1093/jaoacint/qsac027) (approved by ERP in November 2023)

2021.06 Detection of *Listeria* species in a Broad Range of Foods and Selected Environmental Surfaces (for manual workflow only) (https://doi.org/10.1093/jaoacint/qsac044) (approved by ERP in November 2023)

2021.07 Bovine Lactoferrin in Infant Formula and Adult Nutritional Products (https://doi.org/10.1093/jaoacint/qsac066)

Methods Adopted as Final Action *Official Methods℠*

[First Action Official Methods℠ recommended by an ERP and approved by the OMB for Final Action Official Methods℠ status. AOAC Final Action Official Methods℠ are published in the OMA print and online (https://academic.oup.com/aoac-publications/book/45491) products.]

2016.09 Quantitative Analysis of Aloins and Aloin-Emodin in Aloe Vera Raw Material and Finished Product (http://dx.doi.org/10.5740/jaoacint.16-0387) (approved in August 2023)

2016.16 Curcuminoids in Turmeric Roots and Supplements (http://dx.doi.org/10.5740/jaoacint.17-0111) (approved in August 2023)

2018.16 Sugar Profile in Food, Dietary Supplements, Pet Food, and Animal Feeds (https://dx.doi.org/10.5740/jaoacint.19-0193)

2020.01 Lactose in Lactose-Free and Low-Lactose Milk, Milk Products, and Products Containing Dairy Ingredients (https://dx.doi.org/10.1093/jaoacint/qsaa080)

2020.04 Screening of 152 Veterinary Drug Residues in Animal Source Foods (https://dx.doi.org/10.1093/jaoacint/qsaa168) (approved in August 2023)

2021.09 Total Sulfites in Shrimp (https://doi.org/10.1093/jaoacint/qsad114) (approved in August 2023)

Methods for Which User Feedback Is Requested

[First Action Official Methods℠ under consideration for Final Action status. AOAC encourages method users to provide feedback regarding the use and performance of methods and submit any supporting documentation, such as a summary of the method's performance, data, or any additional comments regarding the method, along with a recommendation to promote the method to Final Action, repeal, or maintain the method's First Action status. To submit method feedback, email methodfeedback@aoac.org or visit www.aoac.org. AOAC Official Methods℠ are published in the OMA print and online (https://academic.oup.com/aoac-publications/book/45491) products and the Journal of AOAC INTERNATIONAL.]

997.02 Yeast and Mold Counts (matrix extension to dried cannabis flower; approved in August 2021)

2002.11 Detection and Quantification of Yeasts and Molds (matrix extension to dried cannabis flower; approved in August 2021)

2005.04 *Escherichia coli* 0157:H7 in Selected Foods

2005.05 Shiga Toxin Genes, from *E. coli* 0157:H7, in Selected Foods

2009.03 *Salmonella* in Foods and Environmental Surfaces

2012.03 Analytical Parameters of the Microplate-Based ORAC Pyrogallol Red Assay (http://dx.doi.org/10.5740/jaoacint.CS2012_03)

2012.04 Antioxidant Activity in Foods and Beverages by Reaction with 2,2'-Diphenyl- 1-Picrylhydrazyl (DPPH) (http://dx.doi.org/10.5740/jaoacint.CS2012_04)

2012.05 *Bacillus anthracis* Spores on Filters and in Liquid Suspensions Derived from Surface Swabbings

2012.06 RAZOR™ EX Anthrax Air Detection System (http://dx.doi.org/10.5740/jaoacint.CS2012-06)

2012.07 Whey Protein in Milk-Based Infant Formula (http://dx.doi.org/10.5740/jaoacint.13-033)

2012.08 Whey Protein Content in Milk-Based Infant Formula Finished Products (http://dx.doi.org/10.5740/jaoacint.13-076)

2012.09 Simultaneous Determination of Vitamins A and E in Infant Formula and Adult/Pediatric Nutritional Formula (http://dx.doi.org/10.5740/jaoacint.13-203)

2012.11 Simultaneous Determination of Vitamins D_2 and D_3 in Infant Formula and Adult/Pediatric Nutritional Formula (http://dx.doi.org/10.5740/jaoacint.13-176)

2012.12 Analysis of Free and Total Myo-Inositol in Infant Formula and Adult/Pediatric Nutritional Formula (http://dx.doi.org/10.5740/jaoacint.13-128)

2012.14 Total Iodine in Infant Formula and Nutritional Products (http://dx.doi.org/10.5740/jaoacint.13-104)

2012.17 Free and Total Carnitine in Infant Formula and Adult/Pediatric Nutritional Formula (http://dx.doi.org/10.5740/jaoacint.13-140)

2012.18 Choline in Infant Formula and Adult/Pediatric Nutritional Formula (http://dx.doi.org/10.5740/jaoacint.13-195)

2012.21 Vitamin C in Infant Formula and Adult/Pediatric Nutritional Formula (http://dx.doi.org/10.5740/jaoacint.13-115)

2012.23 Development and Validation of an Improved Oxygen Radical Absorbance Capacity Assay Using Fluorescein as the Fluorescent Probe (http://dx.doi.org/10.5740/jaoacint.13-175)

2012.26 Bovine Immunoglobulin G in Bovine Colostrum Powders, Bovine Milk Powders, and Dietary Supplements Containing Bovine Colostrum Products (http://dx.doi.org/10.5740/jaoacint.CS2012-26)

2013.03 Analysis of Cocoa Flavanols and Procyanidins (DP 1-10) in Cocoa-Containing Ingredients and Products (http://dx.doi.org/10.5740/jaoacint.14-112)

2013.04 Catechin and Epicatechin Enantiomers in Cocoa-Based Ingredients and Products (http://dx.doi.org/10.5740/jaoacint.13-351)

2013.05 Aflatoxins B_1, B_2, G_1, and G_2 in Olive Oil, Peanut Oil, and Sesame Oil (http://dx.doi.org/10.5740/jaoacint.13-129)

2013.06 Arsenic, Cadmium, Mercury, and Lead in Foods (http://dx.doi.org/10.5740/jaoacint.13-143)

2013.08 Lateral Flow Immunoassay for Ricin

2013.12 Total Carbohydrates in Wine and Wine-Like Beverages (http://dx.doi.org/10.5740/jaoacint.13-320)

2013.13 Free Folates in Infant Formula and Adult/Pediatric Nutritional Formula (http://dx.doi.org/10.5740/jaoacint.14-055)

2013.15 Hypericin and Pseudohypericin in St. John's Wort

2014.04 Free and Total Carnitine and Choline in Infant Formulas and Adult Nutritional Products (http://dx.doi.org/10.5740/jaoacint.15102)

2014.06 *Listeria* species in Selected Foods and Environmental Surfaces (http://dx.doi.org/10.5740/jaoacint.15-026)

2014.07 *Listeria monocytogenes* in Selected Foods and Environmental Surfaces (http://dx.doi.org/10.5740/jaoacint.15-031)

2015.01 Heavy Metals in Food (https://doi.org/10.5740/jaoac.int.2015.01)

2015.02 Sodium Monofluoroacetate in Dairy Powders (http://dx.doi.org/10.5740/jaoacint.15-0154)

2015.03 Sodium Fluoroacetate in Infant Formula (http://dx.doi.org/ 10.5740/jaoac.int.2015.03)

2015.04 Monofluoroacetate in Powdered Nutritional Products (http://dx.doi.org/10.5740/jaoac.int.2015.04)

2015.07 Chloride in Infant Formula and Adult/Pediatric Nutritional Formula (http://dx.doi.org/10.5740/jaoacint.15-0143)

2015.08 Chloride in Infant Formula and Adult/Pediatric Nutritional Formula (http://dx.doi.org/10.5740/jaoacint.15-136)

2015.11 Chondroitin Sulfate Content in Raw Materials and Dietary Supplements (http://dx.doi.org/10.5740/jaoacint.15-0220)

2015.12 Screening and Identification of Phosphodiesterase Type 5 Inhibitors in Dietary Ingredients and Supplements (http://dx.doi.org/10.5740/jaoacint.15-0202)

2015.15 Nitrogen, Phosphorus, and Potassium Release Rates of Slow- and Controlled-Release Fertilizers (http://dx.doi.org/10.5740/jaoacint.15-0294)

2015.17 Estimation of Withanolides (Withanoside IV, Withanoside V, Withaferin A, 12-Deoxywithastromonolide, Withanolide A, Withanolide B) in *Withania somnifera* (http://dx.doi.org/10.5740/jaoacint.16-0202)

2015.18 Phosphorus and Potassium in Commercial Inorganic Fertilizers (http://dx.doi.org/10.5740/jaoacint.16-0050)

2016.10 Theanine in Tea *(Camellia sinesis)* Dietary Ingredients and Supplements (http://dx.doi.org/10.5740/jaoacint.16-0167)

2016.11 Biotin in Infant, Pediatric, and Adult Nutritionals (http://dx.doi.org/10.5740/jaoacint.16-0257)

2016.12 Ethanol in Kombucha (http://dx.doi.org/10.5740/jaoacint.16-0404)

2017.01 Detection of *E. coli* 0157:H7 species in Selected Foods

2017.02 Simultaneous Determination of Arsenic, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Selenium, and Zinc in Fertilizers (https://doi.org/10.5740/jaoacint.17-0241)

2017.04 *Cis* and *Trans* Lutein, *Cis* and *Trans* Beta-Carotene, and *Cis* and *Trans* Lycopene in Infant, Pediatric, and Adult Nutritionals (http://dx.doi.org/10.5740/jaoacint.17-0287)

2017.05 *Escherichia coli* 0157:H7 and *Escherichia coli* non-0157 Shiga Toxin-Producing *Escherichia coli* (STEC) in Select Foods (https://doi.org/10.5740/jaoacint.17-0301)

2017.06 *Salmonella* species in Select Foods (http://dx.doi.org/10.5740/jaoacint.17-0426)

2017.11 Identification of Pea, Rice, and Soy Proteins in Raw Materials and Finished Goods

2017.12 Identification of Milk Proteins in Raw Materials and Finished Goods

2017.13 Total Phenolic Content (http://dx.doi.org/10.5740/jaoacint.18-0031)

2017.14 Mitragynine in *Mitragyna speciosa* Raw Materials and Finished Products (http://dx.doi.org/10.5740/jaoacint.18-0026)

2017.15 Bisphenol A (BPA) in Commercially Packaged Ready-to-Consume Carbonated and Noncarbonated Water and Nonalcoholic Beverages (http://dx.doi.org/10.5740/jaoacint.18-0132)

2018.02 Enumeration of Yeast and Mold (http://dx.doi.org/10.5740/jaoacint.18-0262)

2018.03 2- and 3-MCPD, 2- and 3-MCPD Esters, and Glycidyl Esters (GE) in Infant and Adult/Pediatric Nutritional Formula (http://dx.doi.org/10.5740/jaoacint.18-0266)

2018.04 Select Nonvolatile Ginger Constituents (https://doi.org/10.5740/jaoacint.19-0004)

2018.07 Fructan (Inulin, FOS, Levan, and Branched Fructan) in Animal Food (Animal Feed, Pet Food, and Ingredients) (http://dx.doi.org/10.5740/jaoacint.18-0330)

2018.08 Phenolic Compounds in Dietary Supplements and Dietary Ingredients Containing Echinacea

2018.09 Ginsenoside Content in *Panax ginseng* C.A. Meyer and *Panax quinquefolius* L. Root Materials and Finished Products

2018.10 Cannabinoid in Dried Flowers and Oils (https://doi.org/10.5740/jaoacint.19-0197)

2018.11 Quantitation of Cannabinoids in Cannabis Dried Plant Materials, Concentrates, and Oils (https://doi.org/10.5740/jaoacint.18-0426)

2018.12 2-Monochloropropanediol (2-MCPD), 3-Monochloropropanediol (3-MCPD), and Glycidol in Infant and Adult/Pediatric Nutritional Formula (http://dx.doi.org/10.5740/jaoacint.19-0026)

2018.14 Quantitation of Aloe Polysaccharides by O-Acetyl (https://doi.org/10.5740/jaoacint.18-0400)

2018.15 Quantification of Wheat, Rye, and Barley Gluten in Oat and Oats Products by ELISA RIDASCREEN® Total Gluten (http://dx.doi.org/10.5740/jaoacint.19-0094)

2019.02 Enumeration of Total Aerobic Counts by MC-Media Pad™ Rapid Aerobic Count Device (https://dx.doi.org/10.1093/jaoacint/qsaa040)

2019.04 Alcohol Content in Kombucha Tea by Headspace Solid-Phase Microextraction and Gas Chromatography-Mass Spectrometry

2019.05 Identification of A-Type Proanthocyanidins in Cranberry-Based Foods and Dietary Supplements (https://doi.org/10.1093/jaoacint/qsaa106)

2019.06 Quantification of Soluble Proanthocyanidins in Cranberry Foods and Dietary Supplements (https://doi.org/10.1093/jaoacint/qsaa084)

2019.07 Free Bisphenol A (BPA) in Commercially Packaged, Ready-to-Consume, Carbonated/Noncarbonated Water and Nonalcoholic Beverages (https://dx.doi.org/10.1093/jaoacint/qsaa123)

2019.08 Ethanol Concentration in Kombucha Beverages Using Ethanol Assay Kit (K-ETOH) (https://dx.doi.org/10.1093/jaoacint/qsaa122)

2019.09 Total Proteinogenic Amino Acids and Taurine in Infant Formula and Adult/Pediatric Formula (https://dx.doi.org/10.1093/jaoacint/qsaa124)

2020.02 *Salmonella* species in a Broad Range of Foods and Select Environmental Samples (https://doi.org/10.1093/jaoacint/qsab005)

2020.03 *Salmonella* species in Select Foods by Solus One *Salmonella* Assay (https://dx.doi.org/10.1093/jaoacint/qsaa071)

2020.06 Enterhemorrhagic *E. coli* (EHEC) in Select Foods (http://dx.doi.org/10.1093/jaoacint/qsab018)

2021.02 *Salmonella* species in a Broad Range of Foods and Selected Environmental Samples by SureTect™ *Salmonella* Species PCR Assay (automated workflow only) (https://doi.org/10.1093/jaoacint/qsab122)

2021.03 Heavy Metals in a Variety of Cannabis and Cannabis-Derived Products (https://doi.org/10.1093/jaoacint/qsab173)

2021.04 Measurement of Water Activity in the Presence of High Volatile Concentrations (https://doi.org/10.1093/jaoacint/qsac003)

2021.05 Detection of *Listeria monocytogenes* in a Broad Range of Foods and Selected Environmental Surfaces (automated workflow only) (https://doi.org/10.1093/jaoacint/qsac027)

2021.06 Detection of *Listeria* species in a Broad Range of Foods and Selected Environmental Surfaces (automated workflow only) (https://doi.org/10.1093/jaoacint/qsac044)

2021.08 *Cronobacter* species in Infant Formulas, Infant Cereals, Ingredients, and Environmental Samples (https://doi.org/10.1093/jaoacint/qsac121)

2021.10 Bovine Lactoferrin in Infant Formula and Pediatric/Adult Nutritionals

2022.01 Insoluble, Soluble, and Total Dietary Fiber in Foods (https://doi.org/10.1093/jaoacint/qsac098)

2022.02 Analysis of Six Human Milk Oligosaccharides (HMOs) in Infant Formula and Adult Nutritionals (https://doi.org/10.1093/jaoacint/qsac112)

2022.03 Taurine in Infant Formulas and Adult Nutritionals (https://doi.org/10.1093/jaoacint/qsad079)

2022.04 2′-Fucosyllactose (2′-FL), 3-Fucosyllactose (3-FL), 6′-Sialyllactose (6′-SL), 3′-Sialyllactose (3′-SL), Lacto-*N*-Tetraose (LNT), and Lacto-*N*-neoTetraose (LNnT) in Infant Formula and Adult Nutritionals (https://doi.org/10.1093/jaoacint/qsad072)

(Continued on page 28)

2022.05 Fluoride in Milk-, Soy-, and Water-Based Infant and Adult Nutritional Formulas (https://doi.org/10.1093/jaoacint/qsad104)

2022.06 Chlorate and Perchlorate in a Broad Range of Food Commodities, Including Baby Food, Nutritional Formulas, and Ingredients (https://doi.org/10.1093/jaoacint/qsad086)

2022.07 Seven Human Milk Oligosaccharides (HMOs) in Infant Formula and Adult Nutritionals (in process)

2023.01 Acrylamide in Coffee, Cereals, Baby Food, Cocoa, Dry Pet Food, Potato Products, Vegetable Crisps, Biscuit, Tea, Nuts, and Spices (in process)

Methods Recommended for Repeal

[First Action Official Methods℠ reviewed and recommended by an ERP to be no longer in use for various reasons (method performance feedback, method has been replaced by a newer method, reagents/equipment no longer available, etc.).]

2012.24 Flavanol and Procyanidin (by Degree of Polymerization 1–10) of Chocolate, Cocoa Liquors, Powder(s), and Cocoa Flavanol Extracts (http://dx.doi.org/10.5740/jaoacint.13-109)

AOAC *PERFORMANCE TESTED METHODS℠* IN PROGRESS

New *Performance Tested℠* Certifications

072301 Check-Points Check & Trace Salmonella 2.0

082301 Clear Scientific Solutions Clear Micro SalSTEC Mplex

082302 Clear Scientific Solutions Clear Micro Aspergillus Mplex

082303 Phigenics PVT Viable Method for *Legionella*

082304 Applied Food Diagnostics Simultaneous Multiplex Real-Time PCR (SIMUL-qPCR) Campylobacter Assay

092301 Hygiena LLC Innovate RapiScreen Dairy Kit

Approved Modifications of *Performance Tested℠* Certifications

August 2023

121001 Check-Points Check & Trace Salmonella

052301 Hygiena Innovate RapiScreen Beverage Kit

121802 bioMérieux GENE-UP® Salmonella 2 (SLM)

121806 bioMérieux GENE-UP® EHEC Series

September 2023

072105 PathogenDx QuantX Fungal Method

October 2023

012201 PathogenDx DetectX Combined Assay

December 2023

102301 Oculer Rapid 930 CS-Check

112301 Dayuan & Oasis Food Tech Ltd FSTest-Aerobic Count Plate (AC)

AOAC *INSTALLATION AND OPERATIONAL QUALIFICATION℠* (Q^2) IN PROGRESS

New Q^2 Certifications

Q^2-032302 Metrohm, Inc., Metrohm Model 940 Professional IC + Model 858 Professional Sample Processor + Amperometric Detector: 940.1540; 858.0020; 945.0010

Q^2-042302 Thermo Fisher Scientific, TSQ Series II Thermo Scientific℠ TSQ Quantis Plus™ Triple Quadrupole Mass Spectrometer ■

Calendar

AOAC Section Meetings

March 25–27, 2024
AOAC Pacific Southwest Section
Robert Mondavi Institute for Wine and Food Science
RMI Sensory Theater
392 Old Davis Rd, Davis, CA 95616, USA
Contact: Norma Hill at normarhill@gmail.com
https://www.pswaoaci.org

June 3–5, 2024
AOAC Midwest Section Meeting
Hilton Chicago/Oak Brook Hills Resort
and Conference Center, Oak Brook, Illinois, USA
https://www.mwaoac.org/

AOAC Midyear Meeting

March 4–7, 2024
14th Annual AOAC Midyear Meeting
DoubleTree by Hilton Gaithersburg Hotel
Gaithersburg, Maryland, USA

AOAC Annual Meetings

August 23–29, 2024
138th AOAC INTERNATIONAL
Annual Meeting and Exposition
Marriott Baltimore Waterfront
Baltimore, Maryland, USA

August 22–27, 2025
139th AOAC INTERNATIONAL
Annual Meeting and Exposition
Town and Country Resort
San Diego, California, USA

August 28–September 2, 2026
140th AOAC INTERNATIONAL
Annual Meeting and Exposition
JW Marriott Indianapolis
Indianapolis, Indiana, USA

August 27–September 1, 2027
141st AOAC INTERNATIONAL
Annual Meeting and Exposition
Sheraton Centre Toronto Hotel
Toronto, Ontario, Canada

Contact: **Lauren Chelf,** director, Meetings and Exposition, AOAC INTERNATIONAL, 2275 Research Blvd, Suite 300, Rockville, MD 20850-3250, USA, Tel: +1-240-912-1449, Fax: +1-301-924-7089, lchelf@aoac.org

Recognizing Analytical Excellence

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Application Deadline: January 31, 2024

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Application Deadline: February 15, 2024

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- 40-minute vendor presentation at the Annual Meeting
- 4 complimentary registrations for the Annual Meeting
- 2 complimentary registrations for the Midyear Meeting
- Attendee list (in electronic format) for the Annual Meeting and Midyear Meeting for both pre-meeting and post-meeting marketing*
- Your materials (brochures, etc.) inserted into the Annual Meeting registration bags provided to every registrant
- Hyperlinked logo on:
  - Annual Meeting & Midyear Meeting email blasts (approx. 30 blasts)
  - Annual Meeting & Midyear Meeting web sponsor pages
  - Electronic version of AOAC's *Inside Laboratory Management* magazine
  - Annual Meeting & Midyear Meeting mobile app
- Champion recognition with company logo included in the:
  - Annual Meeting on-site program
  - *Inside Laboratory Management* (print version)
  - *Journal of AOAC INTERNATIONAL* (print & online versions)
  - Annual Meeting & Midyear Meeting signage
- Social media "thank you" post with link to the Champions web page, issued twice a month in February and March for the Midyear Meeting and July and August for the Annual Meeting (Facebook, Twitter, and LinkedIn)
- Organization listing and 50-word product/service description on the Annual Meeting mobile app
- A half-page advertisement in the Annual Meeting on-site program
- A half-page print & electronic advertisement within the May/June issue of Inside Laboratory Management
- Company profile and hyperlinked logo included in the weekly electronic newsletter sent to all members, *The Spectrum*
- Usage of AOAC Champion Logo on the company's website and social media

*Attendees will have the ability to opt out from these communications and be excluded from this list

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