

JOURNAL OF AOAC INTERNATIONAL

A Peer-Reviewed Journal Publishing Basic and Applied Research in the Analytical Sciences Related to Foods, Drugs, Agriculture, and the Environment

EDITORIAL BOARD

Jim Ault, *Chair*
Rodney Bushway
Steven Dentali
John Finley
Larry Fosdick
Gabriel Giancaspro
Anthony Hitchins
Milan Ihnat
Jeanne I. Rader
David L. Soderberg
Hans P. van Egmond
Edward Waysek
Luann Wetzler
Robert E. Rathbone, *Staff Liaison*

JOURNAL EDITORS

Agricultural Materials

W. Emmett Braselton

Dietary Supplements

Albert E. Pohland

Drug Formulations and Clinical Methods

Samir Wahab

Food Biological Contaminants

Anthony D. Hitchins

Food Chemical Contaminants

Albert E. Pohland

Food Composition and Additives

Sarwar Gilani

Microbiological Methods

Anthony Hitchins

Residues and Trace Elements

Alexander J. Krynitsky

Statistical Analysis

George W. Latimer, Jr

Veterinary Drug Residues

Joe Boison

JOURNAL STAFF

Publisher: E. James Bradford

Sr Director, Publications: Robert E. Rathbone

Production Manager: Jennifer J. Diatz

Production Editor: Tien L. Milor
Kelly Gohn

Subscriptions: Chris Bradley

Advertising Sales:

AOAC INTERNATIONAL

481 N. Frederick Ave, Suite 500

Gaithersburg, MD 20877, USA

Tel: +1-301-924-7077 • Fax: +1-301-924-7089

E-mail: cbradley@aoac.org

AOAC BOARD OF DIRECTORS

President: Robert E. Koeritzer

President-Elect: Samuel W. Page

Treasurer: Jonathan W. DeVries

Secretary: Darryl M. Sullivan

Immediate Past President: Máire C. Walsh

Directors: Michael H. Brodsky

Russell S. Flowers

James D. MacNeil

Lee L. Pieta

Frank P. Ross

Barry Titlow

Directors-at-Large: Douglas A. Hite

Ronald L. Johnson

Table of Contents

July/August 2007 VOL. 90, No. 4

JAINEE 90(4) 885-1202 (2007)

75A	Journal Information
76A	For Your Information
88A	A Field Guide to Instrumentation
94A	Instructions to Authors
95A	Cumulative Author Index

AGRICULTURAL MATERIALS

885	Determination of Apramycin in Animal Feeds by Solid-Phase Extraction and Liquid Chromatography with Precolumn Derivatization and Fluorescence Detection <i>Liying Zhang, Zongyi Wang, Biying Chang, and Wengjun Yang</i>
-----	---

DIETARY SUPPLEMENTS

892	Development and Validation of a Liquid Chromatography Method for Quantification of Xanthorrhizol in Roots of <i>Iostephane heterophylla</i> (Cav.) Benth ex Hemsl <i>María Isabel Aguilar, Nadia Osorio, Israel Bernal, Andrés Navarrete, and Robert Bye</i>
897	Status of Methodology for the Determination of Fat-Soluble Vitamins in Foods, Dietary Supplements, and Vitamin Premixes <i>Christopher John Blake</i>
911	New Liquid Chromatography Method with Ultraviolet Detection for Analysis of Anthocyanins and Anthocyanidins in <i>Vaccinium myrtillus</i> Fruit Dry Extracts and Commercial Preparations <i>Ciro Cassinese, Eric de Combarieu, Mario Falzoni, Nicola Fuzzati, Roberto Pace, and Nicola Sardone</i>
920	Evaluation of Thin-Layer Chromatography Methods for Quality Control of Commercial Products Containing <i>Aesculus hippocastanum</i> , <i>Turnera diffusa</i> , <i>Matricaria recutita</i> , <i>Passiflora incarnata</i> , and <i>Tilia occidentalis</i> <i>Rosalba Ramírez-Durón, Lucía Ceniceros-Almaguer, Ricardo Salazar-Aranda, Ma de la Luz Salazar-Cavazos, and Noemi Waksman de Torres</i>
925	Determination of Aristolochic Acid I in Botanicals and Dietary Supplements Potentially Contaminated with Aristolochic Acid I Using LC-UV with Confirmation by LC/MS: Collaborative Study <i>Wendy R. Sorenson and Darryl Sullivan</i>

Copyright, 2007, by AOAC INTERNATIONAL, Inc. All rights reserved. The *Journal of AOAC INTERNATIONAL* (ISSN 1060-3271) is published bimonthly by AOAC INTERNATIONAL, 481 N. Frederick Ave, Suite 500, Gaithersburg, MD 20877, USA. **Subscriptions** for Vol. 90 (2007) are: Members, \$340.00 in North America, \$430.00 outside North America; Nonmembers, \$475.00 in North America, \$565.00 outside North America. Periodicals postage paid at Gaithersburg, Maryland, USA, and additional mailing offices. Abstracted or indexed in AGRICOLA, Analytical Abstracts, Biological Abstracts, Cambridge Scientific Abstracts, Chemical Abstracts, Current Advances in Ecological Sciences, Current Contents, and others. Printed in USA.

POSTMASTER: Send address changes to *Journal of AOAC INTERNATIONAL*, 481 N. Frederick Ave, Suite 500, Gaithersburg, MD 20877, USA.

- 934 Determination of Caffeine and Caffeine-Related Metabolites in Ephedra-Containing Standard Reference Materials Using Liquid Chromatography with Absorbance Detection and Tandem Mass Spectrometry
Jeanice B. Thomas, Katherine E. Sharpless, Staci Mitvalsky, Mark Roman, James Yen, and Mary B. Satterfield

DRUG FORMULATIONS AND CLINICAL METHODS

- 941 Spectrofluorometric Determination of Ketorolac Tromethamine Via Its Oxidation with Cerium(IV) in Pharmaceutical Preparations and Biological Fluids
Manal Eid, Amina El-Brashy, Fatma Aly, and Wael Talaat
- 948 Micellar Enhanced Spectrofluorometric Determination of Labetalol Through Complexation with Aluminium(III): Application to Dosage Forms and Biological Fluids
Nahed El-Enany
- 957 Development and Validation of Chemometrics-Assisted Spectrophotometry and Liquid Chromatography Methods for the Simultaneous Determination of the Active Ingredients in Two Multicomponent Mixtures Containing Chlorpheniramine Maleate and Phenylpropanolamine Hydrochloride
Ghada M. Hadad, Alaa El-Gindy, and Waleed M.M. Mahmoud
- 971 High-Performance Liquid Chromatographic Determination of Proquazone and Its *m*-Hydroxy Metabolite in Spiked Human Plasma and Urine
Ekram M. Hassan, Azza A. Gazy, Mohamed H. Abdel-Hay, and Tarek S. Belal
- 977 Simultaneous Separation of 14 Antiarrhythmic Drugs and Determination of Mexiletine and Flecainide by Capillary Zone Electrophoresis
Rafał Pietraś, Dorota Kowalczyk, and Hanna Hopkała
- 987 Membrane Electrodes for Determination of Some β -Blocker Drugs
Nesrin K. Ramadan and Hala E. Zaazaa

FOOD CHEMICAL CONTAMINANTS

- 995 Comparison of Four C18 Columns for the Liquid Chromatographic Determination of Deoxynivalenol in Naturally Contaminated Wheat
El-Sayed M. Abdel-Aal, Kaddus Miah, J. Christopher Young, and Iwona Rabalski
- 1000 Single-Laboratory Validation of the Biosense Direct Competitive Enzyme-Linked Immunosorbent Assay (ELISA) for Determination of Domoic Acid Toxins in Shellfish
Hans Kleivdal, Sven-Inge Kristiansen, Mona V. Nilsen, and Lyn Briggs
- 1011 Determination of Domoic Acid Toxins in Shellfish by Biosense ASP ELISA—A Direct Competitive Enzyme-Linked Immunosorbent Assay: Collaborative Study
Hans Kleivdal, Sven-Inge Kristiansen, Mona V. Nilsen, Anders Goksøyr, Lyn Briggs, Patrick Holland, and Paul McNabb
- 1028 Sampling Hazelnuts for Aflatoxin: Effect of Sample Size and Accept/Reject Limit on Reducing the Risk of Misclassifying Lots
Guner Ozay, Ferda Seyhan, Aysun Yilmaz, Thomas B. Whitaker, Andrew B. Slate, and Francis G. Giesbrecht
- 1036 Determining the Variability Associated with Testing Shelled Corn for Aflatoxin Using Different Analytical Procedures in Louisiana in 1998
Douglas L. Park, Thomas B. Whitaker, Janet Simonson, Hershel F. Morris, Bobby Durr, and Henry Njapau

- 1042 Use of Multitoxin Immunoaffinity Columns for Determination of Aflatoxins and Ochratoxin A in Ginseng and Ginger
Mary W. Trucksess, Carol M. Weaver, Carolyn J. Oles, Lydia V. Rump, Kevin D. White, Joseph M. Betz, and Jeanne I. Rader
- 1050 Evaluating the Performance of Sampling Plans to Detect Fumonisin B1 in Maize Lots Marketed in Nigeria
Thomas B. Whitaker, M. Bruno Doko, Britt M. Maestroni, Andrew B. Slate, and Bosede F. Ogunbanwo
- 1060 Evaluating the Performance of Sampling Plans to Detect Hypoglycin A in Ackee Fruit Shipments Imported into the United States
Thomas B. Whitaker, Joyce J. Saltsman, George M. Ware, and Andrew B. Slate

FOOD COMPOSITION AND ADDITIVES

- 1073 Determination of Fat, Moisture, and Protein in Meat and Meat Products by Using the FOSS FoodScan™ Near-Infrared Spectrophotometer with FOSS Artificial Neural Network Calibration Model and Associated Database: Collaborative Study
Shirley Anderson
- 1084 Determination of Niacin in Food Materials by Liquid Chromatography Using Isotope Dilution Mass Spectrometry
Robert J. Goldschmidt and Wayne R. Wolf
- 1090 Determination of Added Sulfites in Dried Garlic with a Modified Version of the Optimized Monier-Williams Method
Jean-Louis Lafeuille, Stephane Lefevre, and Djamila Achouri
- 1098 Characterization of Genetically Modified Maize in Weakly Contaminated Seed Batches and Identification of the Origin of the Adventitious Contamination
Laetitia Petit, Gaëlle Pagny, Fabienne Baraige, Anne-Cécile Nignol, David Zhang, and Patrick Fach

MICROBIOLOGICAL METHODS

- 1107 Validation of Erythromycin Microbiological Assay Using an Alternative Experimental Design
Felipe Rebello Lourenço, Telma Mary Kaneko, and Terezinha de Jesus Andreoli Pinto
- 1111 Identification of Lactic Acid Bacteria within the Consortium of a Kefir Grain by Sequencing 16S rDNA Variable Regions
Véronique Ninane, Radegonde Mukandayambaje, and Gilbert Berben

RESIDUES AND TRACE ELEMENTS

- 1118 Ultrasound-Assisted Pseudodigestion for Toxic Metals Determination in Fish Muscles Followed by Electrothermal Atomic Absorption Spectrophotometry: Multivariate Strategy
Mohammad B. Arain, Tasneem G. Kazi, Mohammad K. Jamali, Hassan I. Afridi, Nusrat Jalbani, and Attique R. Memon
- 1128 Development of a Method for the Detection of β -Lactamases in Milk Samples
Shenghui Cui, Jingyun Li, Changqin Hu, Shaohong Jin, and Yue Ma
- 1133 Interlaboratory Comparison for the Determination of Five Residual Organochlorine Pesticides in Ginseng Root Samples by Gas Chromatography
Mei-Fung Kong, Serena Chan, Yiu-Chung Wong, Siu-Kay Wong, and Della Wai-Mei Sin

- 1142 Accelerated Solvent Extraction of Fluometuron from Selected Soils
Sarah Lancaster, Scott Senseman, and Katherine Carson
- 1146 Application of Low-Pressure Gas Chromatography/Tandem Mass Spectrometry to the Determination of Pesticide Residues in Tropical Fruits
José Luis Martínez-Vidal, José Luis Fernández-Moreno, Francisco Javier Arrebola-Liébanas, and Antonia Garrido Frenich
- 1165 Simultaneous Analysis of 260 Pesticide Residues in Agricultural Products by Gas Chromatography/Triple Quadrupole Mass Spectrometry
Masahiro Okihashi, Satoshi Takatori, Yoko Kitagawa, and Yukio Tanaka
- 1180 A Simple Diffuse Reflectance Fourier Transform Infrared Spectroscopic Determination of Sulfur Dioxide in Ambient Air Using Potassium Tetrachloromercurate as the Absorbing Reagent
Santosh Kumar Verma, Manas Kanti Deb, Samir Bajpai, Yukio Suzuki, Shekhar Kumar Sinha, and Yuan Gong
- 1191 Use of a Novel Medium, the Ionic Liquid 1-Butyl-3-Trimethylsilylimidazolium Hexafluorophosphate, for Liquid-Liquid Extraction of Lead in Water and Its Determination by Graphite Furnace Atomic Absorption Spectrometry
Li Zaijun, Peng Qiping, and Shan Haixia

TECHNICAL COMMUNICATIONS

- 1197 Determination of the Cross-Reactivities for α -Zearalenol, β -Zearalenol, Zearalanone, α -Zearalanol, and β -Zearalanol on Three Commercial Immunoaffinity Columns Targeting Zearalenone
Marianne Erbs, Niccolo Hartmann, and Thomas D. Bucheli