

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 Ilnat
Jeanne I. Rader
David L. Soderberg
Hans P. van Egmond
Edward Waysek
Luann Wetzler
Brian K. Theil, CAE, *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 Gillani

Microbiological Methods
Anthony Hitchins

Residues and Trace Elements
Alexander J. Krynskiy

Statistical Analysis
George W. Latimer, Jr

Veterinary Drug Residues
James D. MacNeil

JOURNAL STAFF

Publisher: E. James Bradford
Sr Director, Publications: Brian K. Theil, CAE
Managing Editor: Robert E. Rathbone
Production Manager: Jennifer J. Diaz
Production Editor: Tien L. Millor
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

March/April 2007 VOL. 90, No. 2

JAINEE 90(2) 349-632 (2007)

- 28A** *Journal Information*
29A *For Your Information*
36A *A Field Guide to Instrumentation*
43A *Cumulative Author Index*

AGRICULTURAL MATERIALS

- 349 Relative Stability of Selenites and Selenates in Feed Premixes as a Function of Water Activity
Sylvan Eisenberg

DIETARY SUPPLEMENTS

- 354 Development of a Simple and Sensitive High-Performance Liquid Chromatography Method for Determination of Glucosamine in Pharmaceutical Formulations
Mahboob Nemati, Hadi Valizadeh, Masood Ansarin, and Farank Ghaderi
- 358 A Validated Quantitative Thin-Layer Chromatographic Method for Estimation of Diosgenin in Various Plant Samples, Extract, and Market Formulation
Priti D. Trivedi, Kilambi Pundarikakshudu, Shivprakash Rathnam, and Karishma S. Shah

DRUG FORMULATIONS AND CLINICAL METHODS

- 364 Development and Validation of a Spectrophotometric Method for the Determination of Macrolide Antibiotics by Using 2,4-Dinitrophenylhydrazine
Osama H. Abdelmageed
- 372 A Sensitive Spectrophotometric Method for the Determination of Desloratadine in Tablets
Sena Çağlar and Aysel Öztunç
- 376 Spectrofluorometric Determination of Fluvoxamine in Dosage Forms, Spiked Plasma, and Real Human Plasma by Derivatization with Fluorescamine
Nahed El-Enany

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.

- 384 Direct Injection Liquid Chromatographic Technique for Simultaneous Determination of Two Antihistaminic Drugs and Their Main Metabolites in Serum
Samy Emara, Alaa El-Gindy, Mostafa K. Mesbah, and Ghada M. Hadad
- 391 Application of Derivative, Derivative Ratio, and Multivariate Spectral Analysis and TLC-Densitometry for Determination of a Ternary Mixture Containing Drotaverine Hydrochloride, Caffeine, and Paracetamol
Fadia H. Metwally, Yasser S. El-Saharty, Mohamed Refaat, and Sonia Z. El-Khateeb
- 405 Column and Thin-Layer Chromatographic Methods for the Simultaneous Determination of Acediasulfone in the Presence of Cinchocaine, and Cefuroxime in the Presence of Its Hydrolytic Degradation Products
Mohammad Abdul-Azim Mohammad, Nagwan H. Zawilla, Fawzy M. El-Anwar, and Samir M. El-Moghazy Aly

FOOD BIOLOGICAL CONTAMINANTS

- 414 Validation of RAPID[®]Staph for Enumeration of *Staphylococcus aureus* in Foods
Wendy F. Lauer, Sandrine M.T. Gary, and Asmita Patel

FOOD COMPOSITION AND ADDITIVES

- 427 Extractability, Stability, and Allergenicity of Egg White Proteins in Differently Heat-Processed Foods
Christiane K. Fæste, Kjersti E. Løvberg, Helene Lindvik, and Eliann Egaas
- 437 Fast Cleanup Method for the Analysis of Sudan I–IV and Para Red in Various Foods and Paprika Color (Oleoresin) by High-Performance Liquid Chromatography/Diode Array Detection: Focus on Removal of Fat and Oil as Fatty Acid Methyl Esters Prepared by Transesterification of Acylglycerols
Yoko Uematsu, Mami Ogimoto, Junichirou Kabashima, Kumi Suzuki, and Kouichi Ito
- 446 Improved Determination of Isolated *trans* Isomers in Edible Oils by Fourier Transform Infrared Spectroscopy Using Spectral Reconstitution
Frederik R. van de Voort, Jacqueline Sedman, and Syed Tufail Hussain Sherazi

MICROBIOLOGICAL METHODS

- 452 Microbiological Assay for Cefoxitin Sodium in Dosage Form
Hérída Regina Nunes Salgado and Greici Cristiani Gomes Tozo
- 456 Comparative Evaluation of Two Quantitative Test Methods for Determining the Efficacy of Liquid Sporicides and Sterilants on a Hard Surface: A Precollaborative Study
Stephen F. Tomasino and Martin A. Hamilton
- 465 Evaluating the Use of Fatty Acid Profiles to Identify *Francisella tularensis*
Paul Whittaker, James B. Day, Sherill K. Curtis, and Frederick S. Fry

RESIDUES AND TRACE ELEMENTS

- 470 Determination of Cadmium and Lead in Biological Samples by Three Ultrasonic-Based Samples Treatment Procedures Followed by Electrothermal Atomic Absorption Spectrometry
Hassan I. Afridi, Tasneem G. Kazi, Mohammad B. Arain, Mohammad K. Jamali, Gul H. Kazi, and Nusrat Jalbani
- 479 Determination of Benzene in Soft Drinks and Other Beverages by Isotope Dilution Headspace Gas Chromatography/Mass Spectrometry
Xu-Liang Cao, Valerie Casey, Steve Seaman, Brett Tague, and Adam Becalski

- 485 Determination of Pesticide Residues in Foods by Acetonitrile Extraction and Partitioning with Magnesium Sulfate: Collaborative Study
Steven J. Lehotay
Supplemental information is available online via the Internet at:
<http://www.atypon-link.com/AOAC/loi/jaoi>
- 521 Determination of Low-Level Agricultural Residues in Soft Drinks and Sports Drinks by Liquid Chromatography/Tandem Mass Spectrometry: Single-Laboratory Validation
Nathan Paske, Bryan Berry, John Schmitz, and Darryl Sullivan
- 534 Determination of Low-Level Agricultural Residues in Soft Drinks and Sports Drinks by Gas Chromatography with Mass-Selective Detection: Single-Laboratory Validation
Nathan Paske, Bryan Berry, John Schmitz, and Darryl Sullivan
- 544 Gas Chromatographic Determination of Pesticide Residues in Malt, Spent Grains, Wort, and Beer with Electron Capture Detection and Mass Spectrometry
Nuria Vela, Gabriel Perez, Gines Navarro, and Simon Navarro
- 550 Determination of Pesticides in Apples by Liquid Chromatography with Electrospray Ionization Tandem Mass Spectrometry and Estimation of Measurement Uncertainty
Jian Wang and David Wotherspoon
- 568 Determination of Imazaquin Residues in Soil by Solid-Phase Extraction and High-Performance Liquid Chromatography
Chen Xuyuan, Hu Jiye, and Li Jianzhong

STATISTICAL ANALYSIS

- 575 On Using an Approximate Noncentral *t*-Distribution in Determining a One-Side Upper Limit for Future Sample Relative Reproducibility Standard Deviations
Foster D. McClure and Jung K. Lee
- 582 Calculation of Measurement Uncertainty in Quantitative Analysis of Genetically Modified Organisms Using Intermediate Precision—A Practical Approach
Jana Žel, Kristina Gruden, Katarina Cankar, Dejan Štebih, and Andrej Blejec

VETERINARY DRUG RESIDUES

- 587 Simultaneous Quantitative Determination of the Synthetic Antioxidant Ethoxyquin and Its Major Metabolite in Atlantic Salmon (*Salmo salar*, L), Ethoxyquin Dimer, by Reversed-Phase High-Performance Liquid Chromatography with Fluorescence Detection
Victoria J. Berdikova Bohne, Helge Hove, and Kristin Hamre
- 598 Determination of 10 Sulfonamide Residues in Meat Samples by Liquid Chromatography with UV Detection
Marcello Di Sabatino, Anna Maria Di Pietra, Luigi Benfenati, and Bruno Di Simone
- 604 Multiresidue Determination of Quinolone and Fluoroquinolone Antibiotics in Fish and Shrimp by Liquid Chromatography/Tandem Mass Spectrometry
Guy Dufresne, Andre Fouquet, Don Forsyth, and Sheryl A. Tittlemier
- 613 Quantitation and Validation of Fluoroquinolones in Eggs Using Liquid Chromatography/Tandem Mass Spectrometry
David A. Durden and Tanya MacPherson
- 626 Determination of Synthetic Hormones in Animal Urine by High-Performance Liquid Chromatography/Mass Spectrometry
Antoni Rúbies, Albert Cabrera, and Francesc Centrich