

Recent Books, Summer 2008

*JAF*C publishes titles and brief summaries of recent books brought to the attention of the Editor. For consideration, books must be currently available and not more than 2 years old.

Immunoassay and Other Bioanalytical Techniques

Edited by Jeanette M. Van Emon

CRC Press: Boca Raton, FL, 2007; 512 pp

Provides a basic understanding of immunochemical and other bioanalytical methods and discusses advances such as new platforms and detection systems for use in environmental applications, biological monitoring, prion diagnostics, GMO detection, and homeland security.

Handbook of Water Analysis, 2nd ed.

Edited by Leo M. L. Nollet

CRC Press: Boca Raton, FL, 2007; 783 pp

Contains 26 chapters covering sampling methods, data treatment, radioanalytical methodology, analysis for bacteria, marine toxins, halogens, sulfur compounds, phosphates, cyanides, asbestos, metals and trace elements, silicates, humic matter, organic and nitro-organic contaminants, VOCs, and many other pollutants.

Computational Fluid Dynamics in Food Processing

Edited by Da-Wen Sun

CRC Press: Boca Raton, FL, 2007; 757 pp

Provides an overview of CFD applications in the food industry, including analyzing and optimizing cold-chain facilities, modeling of drying and heating processes, analysis of heat exchangers, separation, jet impingement, extrusion, high-pressure processing, mixing, tea fermentation, equipment hygiene, biosensor, packaging, and cheese ripening.

Berry Fruit; Value-Added Products for Health Promotion

Edited by Yanyun Zhao

CRC Press: Boca Raton, FL, 2007; 430 pp

Discusses the bioactive compounds and chemical components in berry fruit, their antioxidant capacity, potential health benefits, pre- and postharvest conditions, microbial safety concerns, processing technologies for value-added products, freezing, dehydration, canning, and utilization of berry processing byproducts.

Buenas Prácticas en la Producción de Alimentos

Edited by Alfonso A. Gardea Béjar, Gustavo A. González, Inocencio Higuera-Ciagara, and Fabiola Cuamea Navarro

Trillas: Mexico, 2007; 459 pp (in Spanish)

Good practices in food production, prepared by groups from the Centro de Investigación en Alimentación y Desarrollo, AC, Mexico, with sections on meats, fruits and vegetables, seafood, and dairy products.

Food Biodeterioration and Preservation

Edited by Gary S. Tucker

Blackwell: Oxford, U.K., 2008; 262 pp

Focuses on food degradation by microorganisms and microbial enzymes and its control. Presents chapters on HACCP in food manufacturing, thermal processing, chilling, freezing, drying, modified atmosphere packaging, hurdle techniques, and novel commercial preservation methods.

Nondestructive Testing of Food Quality

Edited by Joseph Irudayaraj and Christoph Reh

Blackwell and the Institute of Food Technology: Ames, IA, 2008; 377 pp

Presents chapters on nondestructive methods for use in food quality assessment, including sensor technology; indirect methods; ultrasound; near-infrared, mid-infrared, and Raman spectroscopy; online image analysis; nuclear magnetic resonance; electronic nose; biosensors; and electrical permittivity.

Wheat Antioxidants

Edited by Liangli Yu

Wiley-Interscience: Hoboken, NJ, 2008; 289 pp

Contains chapters that discuss antioxidant properties of wheat grain and its fractions, effects of genotype and environment on wheat antioxidants, chemical composition of wheat antioxidants, postharvest and food-processing effects, antioxidant capacity estimation, analytical methods, bioavailability, and health aspects.

Kirk-Othmer Food and Feed Technology

Wiley-Interscience: Hoboken, NJ, 2008; 2 volume set

Features selected articles from the 5th edition of the *Kirk-Othmer Encyclopedia of Chemical Technology*, with a focus on the production, processing, and packaging of foods and beverages.

Vitamin D Handbook: Structures, Synonyms, and Properties

Edited by G. W. A. Milne and M. Delander

Wiley-Interscience: Hoboken, NJ, 2008; 283 pp

A compilation of chemical information on 947 vitamin D derivatives that have been reported in the literature. Entries include molecular formula, chemical structure, systematic name and synonyms, ID numbers, chemical and biological properties, and literature references.

Multiple Emulsions: Technology and Applications

Edited by Abraham Aserin

Wiley-Interscience: Hoboken, NJ, 2008; 350 pp

Discusses structure, rheology, stability, and transport in multiple emulsions. Potential applications in drug delivery are explored.

Ingredients Handbook: Sweeteners, 3rd ed.

Edited by Rachael Wilson

Blackwell: Oxford, U.K., and Leatherhead Publishing: Surrey, U.K., 2007; 316 pp

Contains monographs on 12 intense sweeteners and 10 bulk sweeteners, covering properties such as appearance, taste, solubility, stability, applications, physiological properties, and analytical methods.

Water Activity in Foods: Fundamentals and Applications

Edited by Gustavo V. Barbosa-Cánovas, Anthony J. Fontana, Jr., Shelly J. Schmidt, and Theodore P. Labuza

Blackwell and IFT Press: Ames, IA, 435 pp

Introduces the basic principles of the chemistry and physics of water and its interactions in foods, including glass transition; water mobility; moisture sorption isotherm prediction and measurement; water activity in relation to chemical, physical, and microbial stability of foods; diffusion; dehydration; and water activity management.

World Food: Production and Use

Edited by Alfred R. Conklin, Jr., and Thomas Stilwell

Wiley-Interscience: Hoboken, NJ, 2007; 458 pp

A textbook and CD. Chapters include representative farms from around the world, human nutrition, grain crops, vegetables, root crops, fruits, berries and nuts, farm animals and fish, climate, soils and water, raw materials of agriculture, increasing food supplies, and genetically modified crops and animals.

Natural Sources of Flavourings; Report 2

Council of Europe: Strasbourg, France, 2007; 189 pp

The second report of the Council of Europe's Committee of Experts on Flavouring Substances. Provides evaluations of 60 natural source flavorings, giving taxonomic name and synonyms, plant parts used, important chemical constituents, preparation, toxicological data, classification, and limits.

Food and Agricultural Wastewater Utilization and Treatment

By Sean X. Liu

Blackwell: Ames, IA, 2007; 287 pp

Discusses the characteristics of agricultural and food wastewater, and physicochemical, biological, and natural wastewater treatment systems. Chapters on sludge treatment and management, value-added recovery products, and the economics of wastewater treatment and utilization are included.

Applications of Fluidization to Food Processing

By P. G. Smith

Blackwell: Oxford, U.K., 2007; 261 pp

Presents chapters on fluidized bed behavior and aggregative fluidization, as well as applications in freezing, drying, granulation, fermentation, and other food processes.

Pesticide Chemistry; Crop Protection, Public Health, Environmental Safety

Edited by Hideo Ohkawa, Hisashi Miyagawa, and Philip W. Lee

Wiley-VCH: Weinheim, Germany, 2007; 537 pp

Proceedings of the 11th IUPAC International Congress of Pesticide Chemistry, held August 6–11, 2006, in Kobe Japan. Forty-seven chapters in the categories Keynote and Plenary

Lectures, New Chemistry, Biology Natural Products and Biotechnology, Formulation and Application Technology, Mode of Action and IPM, Human Health and Food Safety, and Environmental Safety.

The Determination of Chemical Elements in Food: Applications for Atomic and Mass Spectrometry

Edited by Sergio Caroli

Wiley-Interscience: Hoboken, NJ, 2007; 749 pp

Highlights the role played by atomic and mass spectrometry (especially atomic absorption spectrometry, inductively coupled plasma atomic emission spectrometry, and inductively coupled plasma mass spectrometry) for detecting both essential and potentially toxic chemical elements in foods.

Advances in Thermal and Non-Thermal Food Preservation

Edited by Gaurav Tewari and Vijay K. Juneja

Blackwell: Ames, IA, 2007; 293 pp

Covers advances in thermal and non-thermal food preservation with special emphasis on commercialization of food preservation techniques.

Functional Protein Microarrays in Drug Discovery

Edited by Paul F. Predki

CRC Press: Boca Raton, FL, 2007; 453 pp

A reference with sections on functional protein content for microarrays, fabrication of functional protein microarrays, detection methods for protein microarrays, applications of functional protein microarrays, and bioinformatics and data analysis.

Antioxidant Measurement and Applications

Edited by Fereidoon Shahidi and Chi-Tang Ho

ACS Symposium Series 956; American Chemical Society: Washington, DC, 2007; 468 pp

Developed from a symposium held at the 229th National Meeting of the American Chemical Society held in San Diego, CA, March 13–17, 2005. Presents an overview of antioxidants, their measurement, plant sources, potential health benefits, and applications in food stability.

Mineral Components in Foods

Edited by Piotr Szefer and Jerome O. Nriagu

CRC Press: Boca Raton, FL, 2007; 466 pp

Discusses the analytical implications of mineral components in food and their speciation and data evaluation. Chapters on mineral functional roles, minerals in foods of plant and animal origin, food pollutants, and metal contamination in dietary supplements are included.

Handbook of Food and Bioprocess Modeling Techniques

Edited by Shyam S. Sablani, M. Shafiur Rahman, Ashim K. Datta, and Arun S. Mujumdar

CRC Press: Boca Raton, FL, 2007; 605 pp

Provides succinct descriptions of several modeling techniques, along with examples of applications in the food context. Contains sections on physics-based and observation-based models, as well as generic modeling techniques.

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