

## Recent Books, Fall 2005

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JAFAC 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.

### **Phytochemicals: Mechanisms of Action**

Edited by Mark S. Meskin, Wayne R. Bidlack, Audra J. Davies, Douglas S. Lewis, and R. Keith Randolph

*CRC Press: Boca Raton, FL, 2004; 203 pp*

Includes materials shared at the 4th International Phytochemical Conference. Contains chapters on the absorption, metabolism, bioavailability, modes of action, and potential beneficial health effects of phytochemicals such as flavonoids, catechins, anthocyanins, quercetin, and carotenoids.

### **Novel Compounds from Natural Products in the New Millennium; Potential and Challenges**

Edited by Benny K.-H. Tan, Boon-Huat Bay, and Yi-Zhun Zhu

*World Scientific Publishing: Singapore, 2004; 334 pp*

Based largely on material presented at the 2nd International Conference of the International Society for the Development of Natural Products. Brings together chapters on natural pesticides, drug discovery, economic factors in natural product development, and bioinformatics and other tools facilitating natural product research, as well as physiological effects of several naturally occurring compounds.

### **Lactic Acid Bacteria: Microbiological and Functional Aspects, 3rd Edition, revised and expanded**

Edited by Seppo Salminen, Atte von Wright, and Arthur Ouwehand

*Dekker: New York, 2004; 646 pp*

Presents classification, physiology, genetics, and technological and industrial aspects of lactic acid bacteria. Nutritional and health aspects are discussed in both humans and animals. Methods for modeling and analysis of intestinal microflora and host interactions are included.

### **Toxins in Food**

Edited by Waldemar M. Dąbrowski and Zdzisław E. Sikorski

*CRC Press: Boca Raton, FL, 2005; 368 pp*

Presents information on toxins that are produced naturally by plants, fungi, bacteria, and seafood, as well as toxins introduced through neglect or contamination during processing, packaging, or storage. Includes chapters on food allergies and food poisoning.

### **Genetic Resources, Chromosome Engineering, and Crop Improvement. Vol. 1: Grain Legumes**

Edited by Ram J. Singh and Prem P. Jauhar

*Taylor and Francis: Boca Raton, FL, 2005; 390 pp*

Discusses genetic resources and their utilization for improving yields, disease and pest resistance, and other agronomic traits for major grain legumes, including common bean, pea, pigeonpea, cowpea, faba bean, chickpea, lentil, lupin, mungbean, and azuki bean.

### **Flavor Perception**

Edited by Andrew J. Taylor and Deborah D. Roberts

*Blackwell: Oxford, U.K., 2004; 296 pp*

Presents chapters covering key stages of flavor perception, including proximal stimuli, oral processing and chemesthesis,

cellular basis of taste and aroma, olfactory aspects, learned food preferences, psychological processes, interactions at the sensory level, and magnetic resonance imaging of human olfaction.

### **Image Analysis of Food Microstructure**

By John C. Russ

*CRC Press: Boca Raton, FL, 2005; 379 pp*

Presents a step-by-step approach to extraction of information from images. Includes chapters on stereology, image acquisition, image enhancement, binary images, and measuring features.

### **Encyclopedia of Meat Sciences**

Edited by Werner K. Jensen, Carrick Devine, and Michael Dikeman

*Elsevier: Oxford, U.K., 2004; 1473 pp*

A three-volume encyclopedia containing over 200 entries on meat topics, ranging from animal production and processing, to analytical procedures and food safety, to final consumption, including consumer issues and health aspects.

### **Poisonous Plants and Related Toxins**

Edited by T. Acamovic, C. S. Stewart, and T. W. Pennycott

*CAB International: Oxon, U.K., 2004; 599 pp*

Contains papers presented at the 6th International Symposium on Poisonous Plants, held in Glasgow, Scotland, during August 2001. Topics include characterization of toxins in particular plants or plant families, toxin mechanisms of action, toxicosis in livestock and other animals, and chemical analysis and screening methods for toxins.

### **Chemistry and Technology of Flavors and Fragrances**

Edited by David J. Rowe

*Blackwell: Oxford, U.K., 2005; 350 pp*

Presents the history, methods of identification, generation in food, classes of aroma chemicals, taste and sensation, aroma chemical stability, odorant design, and applications for flavors and fragrances.

### **Brewing: Science and Practice**

By Dennis E. Briggs, Chris A. Boulton, Peter A. Brookes, and Roger Stevens

*Woodhead Publishing: Cambridge, U.K., 2004; 899 pp*

A comprehensive textbook covering the chemical and technical principles of various brewing processes. Also contains chapters on packaging, storage, and distribution of beer in trade; chemical, physical, and sensory properties of beer, and other topics.

### **New Food Product Development: From Concept to Marketplace, 2nd Edition**

By Gordon W. Fuller

*CRC Press: Boca Raton, FL, 2005; 406 pp*

Discusses the generation of new product ideas, organizing and developing strategies for product development and finance, technical aspects of product development, legal aspects, quality control, and product development for the food service and food ingredient industries.

### **Agricultural Applications in Green Chemistry**

Edited by William M. Nelson

*ACS Symposium Series 887; American Chemical Society: Washington, DC, 2004; 216 pp*

Papers presented at a symposium concerned with the unique contributions agriculture can make to green chemistry and how green chemistry can promote sustainable agriculture. Includes sections on agricultural products and processes as green chemistry and the application of green chemistry principles in agriculture.

### **Inulin-Type Fructans: Functional Food Ingredients**

By Marcel Roberfroid

*CRC Press: Boca Raton, FL, 2005; 387 pp*

Discusses functional food as a nutrition concept, especially as it relates to gastrointestinal effects, and the history, chemistry, and natural occurrence of inulin. Digestive functions of inulin-type fructans, including their roles as fermentable carbohydrates, dietary fiber, and modulators of intestinal microflora, are included.

### **New Discoveries in Agrochemicals**

Edited by J. Marshall Clark and Hideo Ohkawa

*ACS Symposium Series 892; American Chemical Society: Washington, DC, 2005; 439 pp*

Developed from a symposium at the 3rd Pan-Pacific Conference on Pesticide Science, held June 2003 in Honolulu, HI. Includes sections on biopesticides and transgenic crops, combinatorial chemistry, mode of action, natural products, new chemistry/green chemistry, and control agents for disease vectors.

### **Introduction to Soil Chemistry: Analysis and Instrumentation**

By Alfred R. Conklin, Jr.

*Chemical Analysis 167; Wiley-Interscience: Hoboken, NJ, 2005; 233 pp*

Covers macroscale features and microscopic and atomic orbital descriptions of soil chemical characteristics, biological and organic components, soil air and soil solution, electrical and titrimetric measurements, extraction, spectroscopy, chromatography, and speciation.

### **Manual of Biocontrol Agents: A World Compendium, 3rd Edition**

Edited by L. G. Copping

*British Crop Protection Council: Hampshire, U.K., 2004; 751 pp*

Contains information on microorganisms, natural products, macroorganisms, and semiochemicals used for biological control of pests, diseases, and weeds. Entries include nomenclature, structure, taxonomy, source, target pests and crops, biological activity, commercialization, application, product specifications, compatibility, mammalian toxicity, environmental impact, and nontarget toxicity.

### **Wine Flavor Chemistry**

By Ronald J. Clarke and Jokie Bakker

*Blackwell Publishing: Oxford, U.K., 2004; 336 pp*

Covers the flavor chemistry aspects of wines made from grapes, including grape varieties and growing regions, taste and stimulant components, volatile components, tasting procedures, sherry and port, and vinification.

### **Espresso Coffee: the Science of Quality, 2nd Edition**

Edited by Andrea Illy and Rinantonio Viani

*Elsevier Academic Press: Amsterdam, The Netherlands, 2005; 416 pp*

Discusses the origin, botany, and agronomy of the coffee plant, and the harvest, processing, and chemistry of coffee beans. Chapters on roasting, grinding, percolation, storage, and packaging are included, along with sensory and health aspects of espresso and coffee consumption.

### **Encyclopedia of Grain Science**

Edited by Colin Wrigley, Harold Corke, and Charles E. Walker

*Elsevier Academic Press: Amsterdam, The Netherlands, 2004; 1544 pp*

A three-volume encyclopedia presenting information on a wide range of grain species, especially those of economic value, covering breeding and selection, seed and grain production, diseases, harvesting, storage, processing, chemistry, products, and uses. Includes a glossary.

### **Bailey's Industrial Oil and Fat Products, 6th Edition**

Edited by Fereidoon Shahidi

*Wiley: Hoboken, NJ, 2005; 3622 pp*

A six-volume set covering the chemistry, properties, and health effects of edible oil and fat products, with sections on common edible oils, specialty oils, products and applications, processing technologies, and industrial and nonedible products.

### **Technology of Reduced Additive Foods, 2nd Edition**

Edited by Jim Smith

*Blackwell Science: Oxford, U.K., 2004; 233 p.*

Examines recent contributions that avoid, reduce, or introduce more acceptable food additives. Topics include processing advances in animal-derived, plant-derived, and marine-derived ingredients, breadmaking technology that extends shelf life, novel food packaging, preservative-reduced or preservative-free foods, and reducing antimicrobial and antioxidant agents in winemaking and brewing.

### **Introduction to Food Chemistry**

By Richard Owusu-Apenten

*CRC Press: Boca Raton, FL, 2005; 269 pp*

An overview of food chemistry, including food analysis, carbohydrates, lipids and fat replacers, proteins, food material science and rheology, nonenzymic oxidations, the Maillard reaction, food enzymes, and postharvest chemistry.

### **Food Emulsions: Principles, Practices, and Techniques, 2nd Edition**

By David Julian McClements

*CRC Press: Boca Raton, FL, 2005; 627 pp*

Explains the basic concepts of emulsion science as applicable to food emulsions, especially their formation, flavor, stability, texture, and appearance. A chapter demonstrating the use of emulsion science to understand the properties of beverages, dairy emulsions, and dressings is included.

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