

## Recent Books, Summer 2007

JAFC 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.

### **Handbook of Food Engineering, 2nd ed.**

Edited by Dennis R. Heldman and Daryl B. Lund  
CRC Press: Boca Raton, FL, 2007; 1035 pp.

Assembles information on thermophysical properties of foods, rate constants about changes in food components during a process, and illustrations of the use of these properties and constants in process design. Includes chapters on rheological properties; reaction kinetics in food systems; transport and storage; heating, cooling, and freezing processes; mass transfer; evaporation and freeze; membrane concentration; dehydration; extrusion; and food packaging and canning.

### **Microbiology and Technology of Fermented Foods**

By Robert W. Hulkins  
IFT Press and Blackwell Publishing: Ames, IA, 2006; 485 pp.

A text covering microorganisms and metabolism; starter cultures; cultured dairy products and cheese; and fermentation of meats, vegetables, beer, wine, vinegar, and foods of the Orient.

### **Modified Atmospheric Processing and Packaging of Fish**

Edited by W. Steven Ottwell, Hordur G. Kristinsson, and Murat O. Balaban  
Blackwell Publishing: Ames, IA, 2006; 258 pp.

Covers the use of filtered smokes, carbon monoxide, and reduced oxygen packaging for fish and seafood products. Also discusses the use of carbon monoxide for red meat. Presents chapters on the use of modified and controlled atmospheric packaging, with specific chapters on history, botulism hazards, and time-temperature integrator controls.

### **Phycotoxins: Chemistry and Biochemistry**

Edited by Luis M. Botana  
Blackwell Publishing: Ames, IA, 2007; 360 pp.

Contains chapters on gambierol, brevetoxins, maitotoxin, palytoxins, ostreocins, anatoxin-a, pectenotoxins, yessotoxin, diarrhetic shellfish poisoning toxins, domoic acid, hepatotoxic cyanobacteria, polycavernosides, azaspiracid poisoning toxins, and cyclic imine marine toxins.

### **Flavourings: Production, Composition, Applications, Regulations, 2nd ed.**

Edited by Herta Ziegler  
Wiley-VCH: Weinheim, Germany, 2007; 851 pp.

Presents insights into the production, processing, and application of various food flavorings and also focuses on analytical methods used in this field.

### **Assessing Exposures and Reducing Risks to People from the Use of Pesticides**

Edited by Robert I. Krieger, Nancy Ragsdale, and James N. Seiber  
ACS Symposium Series 951; American Chemical Society: Washington, DC, 2007; 304 pp.

Based on a symposium honoring Robert I. Krieger as recipient of the International Award for Research in Agrochemicals presented

at the American Chemical Society National Meeting, March 14–15, 2005, in San Diego, CA. Fifteen chapters covering topics in exposure assessment, biomonitoring, and environmental measurements and mitigation.

### **Olive Oil and Health**

Edited by José L. Quiles, M. Carmen Ramírez-Tortosa, and Parveen Yaqoob  
CAB International: Wallingford, U.K., and Cambridge, MA, 2006; 400 pp.

Evaluates the effects of olive oil in human health and disease, including the history of its food use, chemical composition, classification and characteristics, antioxidant properties, thermochemistry, and examination of olive oil consumption in relation to cardiovascular disease, diabetes, immune function, gastrointestinal function, and cancer.

### **Functional Food Carbohydrates**

Edited by Costas G. Biliaderis and Marta S. Izydorczyk  
CRC Press: Boca Raton, FL, 2007; 586 pp.

Presents chapters on the chemistry, physical properties, technology, safety, and health benefits of cereal  $\beta$ -glucans, resistant starch, konjac glucomannan, seed polysaccharide gums, microbial polysaccharides, chitosan, and arabinoylans. Includes metabolic and physiological effects of food carbohydrates in relation to cardiovascular disease, obesity, cancer, type 2 diabetes, mineral metabolism, gastrointestinal tract function, and mood and performance modulation, as well as technical and regulatory aspects of carbohydrates as functional food ingredients in food systems.

### ***Listeria, Listeriosis, and Food Safety, 3rd ed.***

Edited by Elliot T. Ryser and Elmer H. Marth  
CRC Press: Boca Raton, FL, 2007; 891 pp.

Discusses the genus *Listeria* and *L. monocytogenes* identification, ecology, virulence determinants, and characteristics important to food processors, including behavior in dairy, meat, poultry, and egg products; fish and seafood; and plant products. Includes chapters on listeriosis in animals and humans.

### **Hispanic Foods: Chemistry and Flavor**

Edited by Michael H. Tunick and Elvira González de Mejía  
ACS Symposium Series 946; American Chemical Society: Washington, DC, 2007; 213 pp.

Presents trends in Hispanic foods and flavors, including snack and dairy foods. Also discusses chemical characterization of herbs, peppers, beans, amaranth, lime, teas, and distilled beverages, including flavor or bioactivity aspects.

### **The Encyclopedia of Seeds: Science, Technology and Uses**

Edited by Michael Black, J. Derek Bewley, and Peter Halmer  
CAB International: Wallingford, U.K., and Cambridge, MA, 2006; 841 pp.

Covers basic seed biology, including seed structure, composition, development, viability, germination, dormancy, hormones, metabolism, seedling emergence, ecology, evolution, and domestication. Presents technological principles of seed and grain production and

seeds as food sources of carbohydrates, proteins, oils and fat, and other food and non-food uses.

### **Natural Products for Pest Management**

Edited by Agnes M. Rimando and Stephen O. Duke

*ACS Symposium Series 927; American Chemical Society: Washington, DC, 2006; 331 pp.*

Contains sections on the discovery and mode of action of natural herbicides, fungicides, and insecticides; molecular biology as a tool in the discovery of natural pesticides; and regulatory issues on the use of natural pesticides.

### **Chemical and Functional Properties of Food Components, 3rd ed.**

Edited by Zdzisław E. Sikorski

*CRC Press: Boca Raton, FL, 2007; 544 pp.*

Considers the chemical properties of different food constituents and shows how the reactions that take place during storage and processing affect food quality. Includes chapters on water, mineral components, saccharides, proteins, lipids, rheological properties, food colorants, flavor compounds, and additives. Also covers food safety; allergens; prebiotics; probiotics; nervous and cardiovascular system effects; mutagenic, carcinogenic, and chemopreventive compounds; and children's nutrition.

### **Handbook of Enology, 2nd ed.**

#### **Volume 1: The Microbiology of Wine and Vinifications**

Edited by Pascal Ribéreau-Gayon, Denis Dubourdieu, Bernard Donèche, and Aline Lonvaud; 511 pp.

#### **Volume 2: The Chemistry of Wine Stabilization and Treatments**

Edited by Pascal Ribéreau-Gayon, Y. Glories, A. Maujean, and D. Dubourdieu; 451 pp.

*Wiley: Chichester, U.K., 2006.*

Volume 1: chapters on grape and wine yeasts, lactic acid bacteria, acetic acid bacteria, sulfur dioxide use, grape maturation, harvest and pre-fermentation treatments, and winemaking methods. Volume 2: the chemistry, stabilization, and treatment of wine.

### **Acrylamide and Other Hazardous Compounds in Heat-Treated Foods**

Edited by K. Skog and J. Alexander

*CRC Press: Boca Raton, FL, and Woodhead Publishing Ltd.: Cambridge, UK, 2006; 535 pp.*

Contains sections on the formation and analysis of hazardous compounds in heat-treated foods, health risks of acrylamide and other hazardous compounds in heat-treated foods, and minimizing the formation of hazardous compounds in foods during heat treatment.

### **Trace Element Analysis of Food and Diet**

By Namik K. Aras and O. Yavuz Ataman

*Royal Society of Chemistry: Cambridge, U.K., 2006; 362 pp.*

Covers the importance of trace elements in food and trace element studies, statistical evaluation of data, trace analysis, sampling and sample pretreatment, spectrochemistry, atomic absorption spectrometry, atomic emission and mass spectrometry using plasma techniques, atomic fluorescence spectrometry, nuclear activation analysis, X-ray methods, speciation analysis, comparison of analytical techniques, and essential and toxic trace elements.

### **The Microwave Processing of Foods**

Edited by Helmar Schubert and Marc Regier

*CRC Press: Boca Raton, FL, and Woodhead Publishing Ltd.: Cambridge, U.K., 2005; 359 pp.*

Presents the principles and technologies of microwave food processing, along with application chapters on baking, drying, blanching, thawing and tempering, and packaging. Includes chapters on temperature and cooking measurement and process control.

### **Plant Secondary Metabolites: Occurrence, Structure and Role in the Human Diet**

Edited by Alan Crozier, Michael N. Clifford, and Hiroshi Ashihara  
*Blackwell Publishing: Oxford, U.K., 2006; 384 pp.*

Covers phenols, polyphenols, tannins, sulfur-containing compounds, terpenes, alkaloids, polyacetylenes, and psoralens from a chemical and biosynthetic perspective with illustrations of how genetic engineering can be applied to manipulate levels of secondary metabolites of economic value or potential importance to health. Also discusses where these products are found in the diet and how they are metabolized and reviews the evidence for their beneficial bioactivity.

### **Beet-Sugar Handbook**

By Mosen Asadi

*Wiley-Interscience: Hoboken, NJ, 2007; 879 pp.*

Presents the basics of beet-sugar technology, sugarbeet farming and processing, laboratory methods of analysis, sugar-related tables for calculations, and science basics related to sugar technology.

### **Food Polysaccharides and Their Applications, 2nd ed.**

Edited by Alistair M. Stephen, Glyn O. Phillips, and Peter A. Williams  
*CRC Press: Boca Raton, FL, 2006; 747 pp.*

Describes the sources, biosynthesis, molecular structures, and physical properties of food polysaccharides, as well as their production and use in food formulation and the effect of cooking on their interactions with proteins, lipids, sugars, and metal ions. Presents analytical methods and nutritional and ecological considerations.

### **Advances in Biopolymers: Molecules, Clusters, Networks, and Interactions**

Edited by Marshall L. Fishman, Phoebe X. Qi, and Louise Wicker  
*ACS Symposium Series 935; American Chemical Society: Washington, DC, 2006; 325 pp.*

Covers recent research in the elucidation of networks, protein–polysaccharide interactions, and the isolation, characterization, modification, and applications of biopolymers. Contains sections on protein structure and function, polysaccharide structure and function, and novel approaches of biopolymers.

### **Near-Infrared Spectroscopy in Food Science and Technology**

Edited by Yukihiro Ozaki, W. Fred McClure, and Alfred A. Christy  
*Wiley-Interscience: Hoboken, NJ, 2007; 420 pp.*

Presents the basic principles of NIR spectroscopy, the characteristics of NIR spectra, instrumentation, sampling techniques, and chemometrics. Discusses the applications of NIR spectroscopy to agricultural and marine products, foodstuffs, fermentation engineering, on-line analysis in food engineering, and disease diagnosis related to food safety in dairy products.

### **Prebiotics: Development and Application**

Edited by Glenn R. Gibson and Robert A. Rastall  
*Wiley: Chichester, U.K., 2006; 264 pp.*

Assembles information on prebiotics and the molecular microbial ecology of the human gut, including dietary intervention for improving human health. Discusses prebiotic inulin-type fructans, galacto-oligosaccharides, and carbohydrates, along with prebiotic impacts on companion animals and the past, present, and future of prebiotics.