

## Book Review

**Food Lipids: Chemistry, Nutrition and Biotechnology;** Casimir C. Akoh and David B. Min (Eds.); Marcel Dekker, New York, xi+816 pages, ISBN 0-8247-9985-2, US\$225.00

There have been many developments in processes applied to lipids and in the scientific understanding of the chemistry, nutrition and biotechnology of lipids in recent years. There are few alternative texts that deal with such a wide range of topics relevant to food lipids at a level suitable for university students and consequently the publication of this book is very timely.

This book comprises 28 chapters in five parts, namely Chemistry and Properties; Processing; Oxidation; Nutrition; and Biotechnology and Biochemistry. After a chapter on nomenclature and classification, part 1 covers phospholipids, emulsions and emulsifiers waxes and sterols, extraction and analysis, and the chemistry of frying fats. Part 2 covers oil-processing; crystallisation and polymorphism; and chemical interesterification. Part 3 covers lipid oxidation in oils, muscle foods, and plant tissues; measurement of oxidative rancidity; and antioxidant mechanisms. Part 4 covers various lipid topics relevant to human health including antioxidants; unsaturated fatty acids (a chapter curiously entitled omega fatty acids); fats and their significance for the

immune system, coronary heart disease, and obesity; and lipid-based fat substitutes. Part 5 covers lipid biotechnology, microbial lipases, structured lipids, biosynthesis of fatty acids and genetic engineering. Each chapter includes references and the book is completed by a useful index.

Although this book covers many aspects of food lipids in reasonable detail, suitable for university students, there are inevitably some topics that are covered superficially or omitted. In particular, the coverage of polar lipids other than phospholipids and selectivity in catalytic hydrogenation is brief, and near infrared spectroscopy for fat determination is not discussed. However, the range of topics covered is very extensive and most of the topics are covered in good detail. There are few errors in the book, although the titles to some of the figures could be better; for example the title for Fig. 8 in chapter 9 should state that the figure applies to cocoa butter rather than to all fats.

Overall this book is a welcome addition to the literature and is suitable as a recommended text for undergraduate and postgraduate courses in food lipids. The price may be beyond the pocket of most university students but the book should be widely available in libraries serving these students.

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