

Book Reviews

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Food and Free Radicals. Edited by M. Hiramatsu, T. Yoshikawa & M. Inoue. Plenum Press, New York, ISBN 0-306-45493-9. viii + 169 pp. US\$79.50.

This book represents the proceedings of the first symposium on food and free radicals held in June 1994 in Yamagata, Japan. The 21 papers mainly describe *in vitro* assessments of antioxidant activity of polyphenols and other antioxidants, or animal studies of the physiological effects of dietary antioxidants. Although some reviews are included, many of the chapters report experimental results, although some are very brief. Most chapters are contributed by Japanese scientists, and this shows the high level of activity in this field in Japan.

Spelling and grammatical errors are more frequent than one would expect in a modern book but this is irritating rather than a barrier to communication. More serious errors include the lack of units for the data in Table 3, p. 37, and for the hydroperoxides in Table 1, p. 28.

It is regrettable that the proceedings of a conference held in 1994 are not published until 1997. The occasional reference from 1995 has been added, but this field is moving rapidly and the lack of reference to recent papers leads to a poor coverage in some chapters. One glaring example of this is in chapter 3 where Terao and colleagues discuss carotenoids as antioxidants. The authors mention an intervention study, which was published in 1993, which provided evidence that supplementation with β -carotene is helpful in the prevention of cancer death. However, no reference is made to the more recent PHS, CARET and ATBC trials that provided strong evidence of no benefit for β -carotene supplementation in the prevention of heart disease or cancer in generally well-nourished populations, with possible evidence of harmful effects.

In conclusion, this book is useful in indicating the level of activity in Japan in the field of free radical effects derived from food, and some of the studies that were performed in 1994. However, more recent work casts doubt on the value of this book for libraries or individuals.

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Instrumental Methods in Food Analysis. J. R. J. Paré and J. M. R. Bélanger (eds). Elsevier Science, Amsterdam, 1997. ISBN: 0-444-81868-5. xvii + 487 pp. US\$287.50.

Instrumental methods are now essential tools in almost all food analyses. Techniques are developing rapidly, and it is now essential for all food analysts to have a sound understanding of the principles and potential of a wide range of instrumental methods. This book includes 11 chapters, namely: Chromatography; High Performance Liquid Chromatography (HPLC); Gas Chromatography (GC); Fourier Transform Infrared Spectroscopy; Atomic Absorption, Emission and Fluorescence Spectrometry; Nuclear Magnetic Resonance Spectroscopy; Mass Spectrometry; Electroanalytical Techniques; Capillary Electrophoresis; Microwave-Assisted Processes; and Supercritical Fluid Extraction. A common approach is used in each chapter, with a detailed account of principles followed by a description of a few applications. Most chapters are written by scientists from Canada and the USA with experience in the application of instrumental methods to food science, but some chapters are written by a combination of an author with knowledge of the principles of an instrumental technique, together with a scientist who is more knowledgeable in applications to food science. Inevitably, with the development of instrumental methods, the chapters are not comprehensive, but generally the topics are well discussed, and the coverage is reasonably well balanced. I would have liked to see more discussion of headspace analysis and injection techniques in the chapter covering GC, and light scattering detectors are not mentioned in the HPLC chapter. Quantification of chromatographic data is not discussed, and generally a few more applications could usefully have been included in most chapters. However, despite these reservations, the editors have produced a book that meets their stated aim of writing a monograph that can be used by graduate students and industry-based technical and operations staff. This book is a useful addition to the literature for analysts at this level, and can also be used by students at an undergraduate level.

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