

Book Reviews

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The Index of Antimicrobials. By Michael and Irene Ash, Synapse Information Resources. Gower Publishing Ltd, 1996. ISBN 0566 078163. 486 pp. Price: £95.00.

This book provides information on a broad range of antimicrobial agents having applications in the chemical, food, agriculture, pharmaceutical and water and waste treatment industries. The index is probably most useful for those looking for agents effective in a specific application and for assessing the agent's compatibility with the system, its level of toxicity in meeting environmental regulations and its safety in production and handling. A useful description of each agent is provided and includes the trade name of the chemical, the chemical description and the range of applications. The index also provides a helpful application cross-reference with information on major application areas and a manufacturers' directory with detailed contact information.

Hilary Lynch

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Flavour Science—Recent Developments. Edited by A. J. Taylor and D. S. Mottram. The Royal Society of Chemistry. Information Services, 1997. ISBN 0-85404-702-6. 472 pp. Price: £69.50.

This book contains a wealth of information about a wide range of cutting edge research in the field of flavour science. The volume records the 86 lectures, posters and workshop presentations that were made at the 8th Weurman Flavour Research Symposium, held from 23–26 July 1996 in Reading, UK. The papers have been organised into seven key areas which cover the major aspects of flavour science, i.e. Flavour of biological origin, Biotechnological production of flavour, Chirality and flavour, Thermally generated flavour, Novel methods of flavour analysis, Sensory methods in flavour, and Flavour binding and flavour release. It is no accident that these topics logically cover the sequence of flavour generation through to flavour measurement and ultimately sensory impact.

It is inevitable that in a volume such as this the quality of the individual chapters does vary. The general standard is, however, very good and the editors have done extremely well in the standardisation of presentation and style. The section on flavour binding and

flavour release is particularly interesting in its relevance to the perception of flavours in the mouth, and deals with one of the most active new areas of research in considerable detail. There is, however, something for everyone in this book, as it deals with so many issues of relevance to so many products, processes and techniques.

The book is an essential addition to the library of anyone seeking to keep abreast of the latest research in this active science and will be of value to researchers, scientists in appropriate areas of the food industry and to those involved in education.

Martin Hall

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Antimicrobial Food Additives. By Erich Lück and Martin Jager. Springer, Heidelberg. ISBN 3-540-61138-X. XXVI + 260 pp. Price: DM. 148.00.

After a general introduction of some 50 pages, the text covers all the major chemical preservatives of human food. For convenience, the sub-headings of each chapter are broadly uniform, so that each of the major compounds like sulphur dioxide or sodium chloride has sections devoted to such topics as analysis, properties, toxicity and spectrum of action. This approach does, of course, comply with the stated intention of the authors to focus the text at groups including 'the practical man in the food industry and the educated layman', for the arrangement makes the search for information extremely easy.

Unfortunately the selection of this target readership has tended to have an adverse influence on the quality and quantity of information provided, for much of the data are somewhat superficial. For example, anyone looking-up Table 7 for information on the 'mode of action of some preservatives on microorganisms' will find only a list of preservatives and an indication of target groups, i.e. 'bacteria, yeasts and molds.' Again the discussion of the Hurdle Concept highlights the fact that the 'initial microbe count should be as low as possible' and, although it may be unfair to isolate this comment, it does serve to emphasise that this book is not for the specialist. Indeed, even college students may find it less than helpful for, of over 80 references cited in one introductory section—Antimicrobial action of preservatives—only a handful are post-1990.

Exactly why the overall impact of the book is so disappointing is difficult to define, but somehow the content does not live up to the high expectations generated by the title. Perhaps operatives in the food industry will find the text helpful as an initial guide to preservative action, and certainly the coverage of less widely known compounds could prove useful. However, I suspect that any potential readers involved with, for example, product development will need a great deal more information than this text can provide.

Richard K. Robinson

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Detection Methods for Irradiated Foods: Current Status. Edited by Cecil H. McMurray, Eileen M. Stewart, Richard Gray and Jack Pearce. The Royal Society of Chemistry. ISBN: 0 85404 770 0. XII + 432 pp. Price: £79.50.

Public awareness on matters of food safety has reached an all-time high following a number of high profile incidents over the past few years. Food irradiation is a technique that, in principle, can be used to improve the safety of foods; however, the consumer, quite correctly, demands the right to know the processing history of any food he or she might purchase. It is thus gratifying to see collected in one volume, detailed descriptions of the major techniques available to distinguish between irradiated and non-irradiated foodstuffs. This book is, in essence, the scientific record of an international meeting on analytical detection methods for irradiation of foods held at the Queens University of Belfast in June 1994; as such it consists of articles (often quite detailed) on a variety of topics by a range of authors. In my opinion, this book is most likely to appeal to analytical scientists, particularly those involved in the analysis of foodstuffs.

The book is divided into several sections, each devoted to a particular analytical technique (or group of techniques); of particular note are substantial sections on electron spin resonance, thermoluminescence, the use of lipids and DNA methods, together with other chemical, physical and biological techniques. The text describes the use, and adaptation of these techniques to a range of different types of foodstuffs, presenting a range of problems for the analyst. For example e.s.r measurements are not confined to relatively 'dry' foods, where radicals produced on irradiation are prevented from decaying by virtue of the rigid matrix provided by the food material, but soft fruits and meats are also analysed, utilising seed and bone components, respectively.

While the tone is generally positive, clearly considerable effort has gone into testing both the validity and the limitations of the particular methodologies

described. On the negative side, I felt that the chapters in the last section of the book, describing the poster contributions were rather too short to be of great use. This minor point aside, this text will be a useful addition to the library of the food analyst. Although this is, in essence, a book for the specialist, all consumers of food will be interested in the broader message that comes from this volume, namely, that the methodology exists to police the correct labelling of irradiated foodstuffs.

F. J. Davis

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Fats and Oils. Clyde E. Stauffer. Egan Press, St. Paul, 1996. ISBN 0 913250 90 2. 149 pp. US \$66.

This text is part of the Egan Press Handbook Series aimed at providing practical guides for the Food Industry. A wide range of topics relating to fats and oils is covered in 10 chapters. The chapters cover functional properties, analytical tests, properties of emulsifiers, refining and production, bakery products, frying fats, chocolate and confectionery coatings, salad dressings, nutritional topics, and fat and calorie reduction. Useful information is also given in appendices, which describe the nomenclature and sources of fatty acids, the fatty acid composition and iodine value of fats and oils, specifications for shortenings and margarines, and glossary of terms relevant to the fats and oils industry.

The topics are described at an introductory level this is useful for students or food technologists lacking a background in the science and technology of fats and oils. The information is generally accurate and described in a clear and precise manner. However, the definition of free radical is odd and chylomicra is included in the glossary instead of chylomicron. Physical refining is omitted from the book.

The European reader may be put off by some of the American conventions used by the author, e.g. weights in lb, prices in \$, and a list of antioxidants approved by the FDA. At least temperatures are given in °C (or sometimes in both °C and °F). Chemical structures are given for a range of lipids, surfactants and metabolites, but references are only provided in the chapters concerned with fat and calorie reduction and analytical tests.

Despite these reservations, the author has achieved his aim of providing a guide to scientific and technical aspects relevant to technologists using edible fats and oils, and this book is recommended for purchase as an introductory text with much useful information.

M. H. Gordon