



Book Reviews

Developments in Oils and Fats. Ed. R. J. Hamilton. Chapman and Hall, London, 1995. ISBN 0-7514-0205-2. x + 269 pp. £65.00.

This book provides up-to-date information on nine topics relevant to the oils and fats industry. Chapter 1 by M. Enser covers meat lipids with emphasis on the place of meat lipids in the human diet in relation to current dietary recommendations, factors affecting lipid composition in animals and organoleptic properties of meat. The fatty acid composition of marine sources of *n*-3 fatty acids and methods of concentrating these nutritionally desirable fatty acids are covered by J. R. Sargent and R. J. Hendersen. Chapter 3 by V. K. S. Shukla discusses confectionery fats including details of the compatibility of hard butters with cocoa butter, and availability of raw materials for manufacture of cocoa butter equivalents. Chapter 4 by S. Watanabe is concerned with derivatives of long chain fatty acids for use in water-soluble cutting fluids. The properties and composition of sunflowerseed oil are described by W. H. Morrison, R. J. Hamilton and C. Kalu. A. S. H. Ong, Y. M. Choo and C. K. Ooi discuss developments in palm oil in Chapter 6, and this is followed by a Chapter by K. G. Berger and R. J. Hamilton covering oxidation of lipids, and methods to retard the oxidative deterioration of oils. Chapter 8 by R. E. Timms, concerned with crystallisation of fats, is based on a Lewkowitsch Lecture given to the Society of Chemical Industry. This is one of the highlights of the book, since it demonstrates a rare clarity of thought in discussing a subject, which is often treated rather superficially in review articles. The text is completed by a chapter by J. Cast, which describes the principles of mid- and near-infrared spectroscopy with a short review of applications to lipids.

The editor has collected a well-qualified group of contributors, and each topic is discussed clearly with few obvious errors. Each chapter is well referenced, and there is a useful index. This book is recommended for purchase by those involved in the oils and fats industry, and I look forward to further volumes in this series with eager anticipation.

M. H. Gordon

Food Biotechnology: Microorganisms. Eds Y. H. Hui & G. G. Khachatourians. VCH, New York, 1995. ISBN 1-56081-565-5. 937 pp. £118.

This is a large and expensive book which suffers, as the

editors point out, from the fact that books of this type are out of date by the time they are published. Nevertheless, the 26 chapters in the book represent very useful bibliographies for literature up to 1992 with reference to a few papers published in 1993.

It is apparent that authors have been given clear briefs and most chapters follow a common theme of presenting taxonomic and physiological information followed by information on the current status of genetic studies on the organisms and how these might contribute to future industrial applications. The book is noteworthy for the equal treatment accorded to fungi and bacteria.

The first two chapters are intended to be introductions to microbial genetics and microbial growth and physiology. Both chapters are rather turgid and certainly not introductions for the uninitiated but also are not serious reviews for the already informed and might well have been omitted from the book. Three chapters provide good overviews of the principles of methods and approaches to the genetic manipulation of bacteria and fungi, and to protein engineering.

Four chapters provide excellent surveys of *Bacillus* species, microorganisms for organic acid production, the application of genetic methods to the production of volatile flavours, and an exhaustive survey of *Candida* species and their existing and potential industrial uses.

The central eight chapters cover the production of enzymes and food ingredients, including enzymes from *Bacillus* sp., *Penicillium* sp. and *Rhizopus niveus*, lipases from *Rhizopus* and *Rhizomucor*, and the production of cellulose, xanthan gum and pullulan.

The final 10 chapters are on microorganisms used in the manufacture of fermented foods, including *Lactobacillus plantarum*, dairy lactobacilli, sour dough lactobacilli, lactococci, dairy leuconostocs, *Pediococcus*, *Propionibacterium* and yeasts used in brewing, distilling and wines.

The book is generally well presented but contains some typographical errors, mainly in the form of transposed or omitted phrases. The index includes separate appendices for genetic components, microorganisms, chemical compounds and enzymes as well as a general index. At a price of £118 the book is not likely to be a personal purchase but can be commended as a useful reference source for libraries with interests in biotechnology, food science and food technology.

J. D. Owens