

The use of chemical formulae is restricted in the text but when used they are clearly shown and certainly the more important chemical reactions that occur in food are given, e.g. non-enzymatic browning reactions.

Despite the minor criticisms, this *Encyclopedia of Food Science and Technology* is an excellent piece of work and should find a place on the library shelf of all universities, polytechnics and colleges that teach food science, food technology or nutrition. It will prove of invaluable assistance at undergraduate and postgraduate level as a reference book giving a comprehensive review of a tremendous range of topics as well as providing a useful number of references for the interested person to follow up. The price of £385 is rather prohibitive for the individual buyer but I have little doubt that this encyclopedia will become one of the classic reference books in the ever-growing subject of Food Science and Technology. The team of authors are to be congratulated on a significant piece of work.

**P. J. Barlow**

**Food Analysis by HPLC.** Edited by M. L. Nollet. Marcel Dekker Inc., New York, 1992. ix + 776 pp. ISBN 0-8247-8623-8. Price: US\$199.00.

This large reference book (730 pages plus an index running to 29 pages) is divided into 20 chapters, each written by experts in the field. The first chapter is devoted to a careful explanation of HPLC, ranging from the various parts of the instrumentation to the different types of stationary phase available. The main definitions relating to column performance are very well explained, and the chapter is illustrated with clear diagrams. This chapter is to be recommended to first-time users of the technique as well as to more experienced analysts.

Subsequent chapters deal with the analysis of specific classes of food components. Amino acids (with and

without derivatisation), peptides, proteins, lipids, phospholipids, carbohydrates, fat-soluble vitamins, water-soluble vitamins, organic acids, mycotoxins, additives and preservatives, antimicrobial residues, pesticide residues, bittering substances, phenolic compounds and various compounds, organic bases, N-nitroso compounds, polycyclic aromatic hydrocarbons, and anions and cations are all accorded separate chapters. Most deal with the analysis of these components in foods in general, although a few focus on specific foods, e.g. the chapter on bittering substances and phenolic compounds is limited to alcoholic beverages.

In each chapter, a short introduction to the components in question is given, together with a brief comparison of HPLC with other techniques available for their analysis. Emphasis is put on sample preparation, which is crucial for the successful determination of all components, and the various separation mechanisms and detection systems which have been used are reviewed. Several chapters incorporate tables summarising the experimental details used by researchers, and this facilitates a comparison of methods. The reference section at the end of each chapter lists plenty of sources of further up-to-date information. This general approach makes it easy to find information when moving between chapters. The book adopts a practical approach which will make it a useful text for practising chromatographers.

The book is extremely well written and has been carefully edited. Clear explanations of procedures are accompanied by over 200 diagrams. It is highly recommended to all food analysts, whether they are involved in quality control and assurance, or in research and development. In addition, this text will be invaluable to research students who need to perform HPLC analyses of food components. At \$199.00 the book is not inexpensive, but is fair value for money.

**J. M. Ames**