

The marketing of starch-based raw materials in the USA is discussed in the final chapter.

All chapters, except that on wet milling, provide references for further reading. The book emphasises the importance and versatility of starch as a continuously replenishable raw material for many industries and complements similar books on the market such as *Starch: Chemistry and Technology* by Whistler and Paschall and *Glucose Syrups: Science and Technology* by Dziedzic and Kearsley.

It will be a useful addition to any bookshelf and is highly recommended, although at approximately £70.00 it is rather expensive for individual purchase.

Malcolm W. Kearsley

Food Analysis: Principles and Techniques (In 8 Volumes). Volume 3: Biological Techniques. Edited by Dieter W. Gruenwedel and John R. Whitaker, 1985. ISBN 0-8247-7183-4, 416 pp. Price: \$75.00 (US and Canada); \$90.00 (all other countries).

Food Analysis, Volume 3, deals with the application of biological techniques to food analysis. The book consists of six chapters dealing with the whole animal as an analytical tool, use of microorganisms as analytical tools in food analysis, analysis of food for microorganisms and their products by non-culture methods, cell and tissue culture methodology, immunochemical techniques and the analytical uses of enzymes. Considering the range of topics covered, the volume holds together well and the editors are to be congratulated on the uniformity and quality of all the contributions.

I was disappointed that the chapter on immunochemical techniques was so brief, when these techniques have so much potential in food analysis. However, it was good on the basic techniques and well written.

My major criticism of the book is the lack of details on methodology. While I appreciate the editors' point that this is not 'a handbook of methods of analysis', I feel that the volume would have been considerably strengthened by slightly more details on the practicalities of these techniques.

The book is well turned out with a good index, lots of useful references

and few topographical errors. It should be of some use in introducing food scientists to these important analytical techniques, though its price may prove prohibitive.

F. F. Morpeth

Modern Methods of Food Analysis. Edited by K. K. Stewart and J. R. Whitaker. IFT Basic Symposium Series, Avi Publishing Co. Inc., Westport, Connecticut, USA. 421 pp. Price: £49.50.

This book represents the proceedings of a symposium held in New Orleans, 17–18 June 1983, under the auspices of the IFT. Divided into 16 chapters, it is intended to provide information regarding the most modern methods available to the food analyst. The text is descriptive rather than giving specific methods and all authors are from institutes in the USA and Canada.

The first six chapters serve as an introduction to the subject, covering analysis on a general basis. Subjects include systems approach to food analysis, factors affecting nutrient determination, use of computers in analysis, sample preparation and standards for analysis and quality assurance implications. The remaining chapters deal with food analysis either from a methodology or from a component viewpoint. Atomic absorption, reflectance spectroscopy, and gas and liquid chromatography are discussed. The more recent techniques involving biological and microbiological assays are described. Sensory methods of analysis are briefly mentioned.

Two chapters deal with applications of these techniques, to pesticides and flavour analysis. The role of automation in food analysis is also discussed. Each chapter provides an introduction to the subject in question, dealing with basic principles, problems and developments, leading on to the field of application and future trends and has a bibliography to provide further reading in specific areas. Chapter length varies considerably from about 10–40 pages and one criticism of the book might perhaps be that it tries to cover too much in too little space. However, if the book is treated as a text which summarises the developments in key subject areas and gives the 'state of the art' in these areas it comes into perspective and fulfils this role well.