

Book Reviews

Starch Conversion Technology. Edited by G. M. A. Van Beynum and J. A. Roels. Marcel Dekker Inc., New York. 376 pp. Price: \$65.00 (USA and Canada); \$78.00 (all other countries).

The book is divided into 10 chapters by different authors dealing mainly with starch hydrolysis and modification of the hydrolysates to produce a wide range of end products of use to the food and related industries. The authors represent both academic and industrial institutions, worldwide, and the book gives a well-balanced picture of the subject.

Chapter 1, written by the editors of the book, deals with starch as a raw material, examining its industrial importance with respect to its unique properties. Chapter 2 gives details of the structure and composition of starch and outlines the particular features of starches from different sources. Theories of gelatinization are also discussed. The industrial and engineering aspects of starch production, particularly corn starch, are presented in Chapter 3, together with the basic procedures for producing starch hydrolysates.

The more general properties of starch and its hydrolysates are discussed in Chapters 4 to 9. Subjects include chemical modification, enzymic hydrolysis and modification of starch and glucose syrups and fuel alcohol production from starch. Whilst we usually consider starch and its hydrolysates to be the only products used industrially, a very interesting Chapter 8 indicates the diverse nature of other products available as a result of the biotechnological treatment of these substrates.

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