



## Book reviews

**New Developments in Dietary Fiber — Physicochemical and Analytical Aspects.** Edited by Ivan Furda and Charles J. Brine, Plenum Press, New York, 1990. 325 pp. ISBN 0-333-53887-0. Price US \$72.50.

Dietary fibre may be defined as the sum of lignin and polysaccharides not digested by the endogenous secretion of the human digestive tract. In cereals, these polysaccharides are cellulose and hemicelluloses (mainly arabinoxylans and some glucans) and starch which has been modified during processing (resistant starch).

Only in recent years has the potential health implication of dietary fibre begun to be fully investigated. Typical health benefits which are now believed to be associated with an increased intake of dietary fibre include weight reduction, protection against certain types of cancer, blood cholesterol lowering, reduced insulin requirements for diabetics, regularity and possibly blood pressure reduction. The advances of the last two decades have provided increasing insights into the complexity of dietary fibre. However, the generated information is frequently confusing because of the complexity and variability of the dietary fibre. The major impediment to general progress in assessing dietary fibre has been the unavailability of an analytical method which would fulfil a number of specific requirements, and at the same time would provide accurate values of total dietary fibre in plant and food materials. Those requirements include compatibility with the definition of dietary fibre, accuracy and reproducibility, speed and simplicity. Thus, the need for better characterization of the investigated fibres seem inevitable.

In this book a systematic approach to the investigation of the physicochemical and analytical attributes of selected fibres is used to correlate in-vivo efficacy in relation to the molecular structure of individual fibres. Chapter authors incorporate results of their research and some deal with evaluation and limitation of existing analytical methods. As such, it will find widespread application for scientists and students studying these and related disciplines.

John F. Kennedy  
Zilda M. B. Figueiredo

**Research in Thermochemical Biomass Conversion.** Edited by A. V. Bridgwater and J. L. Kuester, Elsevier Science Publishers, London, 1991. xiv + 1193 pp. ISBN 1-85166-310 X. Price £99.00.

Chemical and biological processes have been widely chosen for conversion of biomass into energy. Upward changes in the oil prices induce interest in biomass, whereas if they fall considerably there will be a significant decrease in support for biomass conversion technologies. However, efforts in supporting technologies for biomass conversion should always continue, since the world needs to be prepared for any change in the future, including lack of fossil fuels. The chemical industry will be much involved in such technologies.

'Thermochemical Biomass Conversion' presents the many industrial advances in applied research, development and commercialisation since the fundamental research which was first discussed collectively in 1982. This book comprises 94 papers presented in the second meeting sponsored by the International Energy Agency. Five comprehensive sections emphasise the interaction and roles of all levels of research in supporting the eventual industrial implementation of this technology.

The introductory section on status and technoeconomics identifies opportunities and constraints worldwide. The next two sections on fundamental and applied research take into account gasification, liquefaction, combustion and upgrading of biomass. Pyrolysis and gasification of biomass also appear in the section of demonstration and commercial aspects in which power and design are also examined.

Despite the price, which is very expensive for a personal purchase, the book is an interesting volume to be acquired by industries working in the field, government and libraries. It should also be recommended to researchers in the area. However, the book should contain a subject index for easier handling by the reader.

John F. Kennedy

**The International Biotechnology Directory 1990.** Edited by J. Coombes and Y. R. Alston, MacMillan Publishers Limited, UK, 1989. 800 pp. ISBN 0-333-49782-1. Price £95.00.

International Biotechnology Directory 1990 is the new expanded and updated edition (seventh) of a helpful and valuable reference work in the rapidly growing field of biotechnology. The Directory covers 22 countries from Europe, Scandinavia, North and South America, Australia, Japan and Israel. Regrettably, and surprisingly,