

## Book Reviews

**Mycotoxins and Phycotoxins.** Edited by P. S. Steyn and R. Vleggaar. Elsevier Science Publishers, Amsterdam, 1986. xviii + 545 pp. Price: US\$120.25. ISBN 0-444-42632-9.

This book represents the contributions presented at the Sixth International IUPAC Symposium on Mycotoxins and Phycotoxins held in Pretoria, South Africa, in July, 1985. It is presented as the first volume of a series on Bioactive Molecules, and it is an appropriate reflection of the continuing importance of the toxic metabolites of fungi and algae that they are the first of what should be an interesting series of topics.

There are, in fact, 39 chapters on mycotoxins, 6 on phycotoxins and a single chapter on the bacterial toxins, the corynetoxins and tunicamycins. The book begins with a keynote chapter by Clifford W. Hesseltine, who provides a stimulating review of where, he judges, research on mycotoxins, and work on the control of mycotoxins in food and feed, should be going. Although Dr Hesseltine's experience of mycotoxin studies is considerable, he also makes use of a pool of research workers in several countries, and this chapter makes interesting reading.

The rest of the book is made up of chapters on specific research topics and follows a general structure in which the microbiology, genetics and biochemistry of toxin production lead into structural and synthetic chemistry, followed by chapters on analysis. The final section of the book deals with the biochemical mechanisms of action and the role of the toxic metabolites in human and animal health.

The book provides an exciting blend of fundamental research, such as the

elegant studies on polyketide chain-assembly processes reviewed by Tom J. Simpson and the fine detail with which the biosynthesis of 3-acetyl deoxynivalenol is reviewed by Lolita O. Zamir; also, practical developments in the analysis of mycotoxins and dinoflagellate toxins, and important assessments of the significance of mycotoxins. A comparison of the contributions on 'The role of aflatoxin in human cancer' by D. P. H. Hsieh and 'Role of mycotoxins in endemic liver and oesophageal cancer' by S. J. van Rensburg provides a valuable insight into the complexity of the epidemiology of cancer and the uncertainties which still exist in our understanding of the role that mycotoxins play.

It is apparent from this volume that mycotoxicology is very active in such countries as Japan, North America, Canada and South Africa and we are fortunate that the results of these studies have been made available to a wider audience. It is a pity that the book lacks any indices except an author index which could have been made redundant by adding page numbers to the alphabetical list of contributors. However, this is a small criticism of a book which should find a place on the shelves of all who are concerned about the availability of safe, wholesome foods and animal feeds.

**Maurice Moss**

**Physical Properties of Foods and Food Processing Systems.** By M. J. Lewis. VCH Ellis Horwood, Chichester, 1987. 465 pp. Price: DM175.00. ISBN 3-527-26218-0 (VCH Weinheim), 0-89573-399-4 (VCH Deerfield Beach, Fl.).

This book provides an invaluable collation of the physical principles which underpin the science and technology of the food industry. It covers a very wide scope of material with the emphasis on the physical and mathematical basis of phenomena. The topics covered include fluid hydrostatics and dynamics, properties of liquids, solids and gases, thermal and electrical properties, heat transfer mechanisms, surface properties, rheology and viscometry.

Although intended as an introduction to the field, Dr Lewis has done an admirable job in presenting a clear, concise description of the principles involved and in giving many examples drawn from food processing. A particularly useful feature is the inclusion at the end of each chapter of a summary of the definitions and symbols appropriate to the material covered in the chapter. It has been assumed that the reader has a basic understanding of mathematics and physics and with this in mind there is perhaps an unnecessary amount of space devoted to some aspects, particularly the first chapter which covers units and dimensions.