Book Reviews

Statistical Procedures in Food Research. Edited by J. R. Piggott. Elsevier Applied Science Publishers, Barking, 1987. x + 415 pp. ISBN 0-85166-0321-1. Price: £50·00.

There has long been a need for a statistical textbook in the area of food research. This book does not quite fill this role, but should be essential reading for anyone in the area of food research. It covers most if not all of the statistical techniques he or she is likely to need, with plenty of references for further reading.

Each of the chapters is written by someone expert in that area, consequently the standard between them does vary and there is some overlap. In particular, some authors assume a higher level of prior knowledge than do others. However, this also means that the book is very up to date.

It is dominated by reviews of various multivariate techniques, as is the majority of data in food research of this type, but perhaps could have benefited from more emphasis, or even a separate chapter, on exploratory data analysis, giving the researcher some guidelines as to what to look for before he/she begins to apply the various techniques.

On the whole, the chapters are well written. In particular, the sections on experimental design, regression, descriptive multivariate techniques, generalized procustes techniques and partial least squares regression are very good. There are also chapters on univariable procedures, response surface methods, discriminant analysis, multidimensional scaling and cluster analysis.

There is potentially a huge market for this book. It is to be hoped that the publishers can produce a cheaper version of it, so that the many people who need it might be encouraged to buy it.

Neil Gains

Enzymes and Their Role in Cereal Technology. Edited by J. E. Kruger, D. Lineback and C. E. Stauffer. American Association of Cereal Chemists, Inc., St Paul, Minnesota, USA, 1987. 403 pp. ISBN 0-913250-46-5. Price: $90·00.

The monograph *Enzymes and Their Role in Cereal Technology* by J. E. Kruger, D. Lineback and C. E. Stauffer is well planned with initial chapters on general aspects of enzyme chemistry and methods for their purification and separation. Then chapters on genetics and grain development physiology are followed by five chapters on the main enzyme systems found in cereals and their inhibitors: carbohydrate degrading enzymes, amylase inhibitors, proteases and peptidases, oxidases, and ester hydrolases. The role of these enzymes in baking, pasta and noodle products and beer and fuel alcohols follow with a final chapter on the present industrial utilization of cereals.

The book is intended for cereal technologists and it would not be considered suitable for undergraduate readers. Previous basic knowledge of enzymology is essential, and if readers are new to the subject of enzymes then a standard enzyme text is recommended as prior reading, rather than attempting to understand enzyme kinetics as described by the first author.

As an update of the first monograph published forty years ago by the American Association of Cereal Chemists, entitled *Enzymes and Their Role in Wheat Technology*, the book achieves the editors' aim in an interesting and informative way, bringing in work done on many other cereals. However, Chapter 1 is far too intense for the expected readership and could put potential users off. The other chapters follow in a logical order, containing much useful and factual material and covering all cereals. A chapter discussing potential future industrial uses of the many cereal enzymes covered in the book would have been welcome. Many references are made throughout, including relevant historical ones, with several recent related reviews cited. There is good cross-referencing between the chapters, too, and the index is thorough and accurate. The cover of the book is excellent but the title is misleading as it implies an emphasis on enzymology rather than on cereal enzymes, their chemistry and technology.

The book is generally well presented but the quality of many of the figures