book. Furthermore, it lacks a balanced coverage of all aspects relating to fermentation modelling which is required of a good text book. It only succeeds in partially enlightening an uninitiated reader!

R. Patel & K. Niranjan

Carbohydrates and Carbohydrate Polymers, Analysis, Biotechnology, Modification, Antiviral, Biomedical and Other Applications. Frontiers in Biomedicine and Biotechnology, Vol. 1. Edited by Manssur Yalpani, ATL Press, Inc. Science Publishers, 1993. vi + 314 pp. ISBN 1-882-360-40-0. Price: US$175.00.

This book contains nearly 30 contributions on important topics involving carbohydrates and carbohydrate polymers. This volume is based on a symposium on industrial polysaccharides which was held at the 204th National Meeting of the American Chemical Society in Washington, DC in August 1992.

Recently there has been a surge in carbohydrate research producing many significant developments, which are well covered by this book. The scope of the book is broad, covering basic aspects such as synthesis of carbohydrates to new areas such as their use as antitumour and antiviral agents. The book is split into 6 sections: Biotechnology, Antitumour and antiviral activities, Biomedical Applications, Analysis and Conformation, Chemical Modifications and New Applications.

In the first section, Biotechnology, there are 7 chapters on production, synthesis and analysis of carbohydrates from different sources. The next 4 chapters are in a section entitled Antitumour and Antiviral activities and describe some of the very interesting work being done in this area on the use of sulphated polysaccharides as anti-HIV agents and the chemical modifications necessary for their success and on the antitumour properties of some fungal glucans. Both of these research areas have tremendous potential applications.

In the third section of this book biomedical applications of carbohydrates are discussed in 3 chapters which include the use and development of chitosan polymers for wound healing and the conjugation of hydroxyethylstarch to human haemoglobin for use in blood transfusions. The next 5 chapters, comprising the fourth section, deal with analysis and conformation of polysaccharides and their polymers, and the fifth section contains 5 chapters on chemical modifications. The last section covers new applications of polysaccharides and polysaccharide polymers such as preparation of chitosan films with improved characteristics and preparation of biodegradable plastics with starch-zein mixtures.

All of the chapters of this book are of a high standard and the presentation is excellent and very clear. As it has a broad scope this book would be useful to specialists in the field as well as to non-experts whose work touches on some aspects of polysaccharide science.

Barbara Andrews

Fruit Juice Processing Technology. Edited by Steven Nagy, Chin Shu Chen & Philip E. Shaw. Ag. Science Inc., 1993. x + 713 pp. ISBN 0-9631397-1-1. Price: US$97.00.

Comprehensively prepared by Steven Nagy (one of the Editorial Board members of *Food Chemistry*) and two of his fellow authorities in this field, this volume is an imposing and valuable work. It focuses on the technology of over 22 temperate subtropical and tropical fruits, horticultural varieties and quality factors. It is very well presented with tables, figures and more than 700 bibliographic citations—definitely not for bed-time reading but essential as a reference tool for those of us interested in this section of food technology.

I found very few errors but did notice 'citrus' acid on p. 41 and the page heading of chapter 2 on physicochemical principles became shortened to 'physiochemical'. Indeed the comprehensive authority of the book is matched by its freedom from mistakes and it succeeds totally in portraying how technology is harnessed to achieving high quality in taste, flavour and overall acceptability. Intriguingly a TASTE evaporator (Thermally Activated Short Time Evaporator) is one of the modern technological devices for ensuring this steady control of quality in the fruit juice industry.

One thing which is quite inadequate in the book is its index which makes it very difficult to find details such as sweetness, authenticity testing and adulteration, which are major concerns.

Fruit juices vary enormously in composition and this may be one reason why models of their major component solutes (i.e. sugars) are used for reference purposes. For example, the appendix of this book (pp. 659–698) consists almost entirely of an extensive table relating Brix values of sucrose solutions to apparent densities and solids by weight.

Overall, I am highly impressed by the contents and pleased to have a copy. The price is very competitive and I congratulate the editors on the scientific success of the book.

Gordon Birch