



## Book reviews

**Exploitation of Microorganisms.** Edited by D. Gareth Jones. Chapman & Hall, London, UK, 1993. 488. pp. ISBN 0-412-45740-7. Price: £65.00

This book contains 17 chapters which cover a diverse range of topics in applied biology where there is a potential or commercial use of exploiting microorganisms. The chapters on the subject of biological control cover the use of plant pathogens to control weeds; biocontrol of fungal plant pathogens; microbial insecticides in the form of *Bacillus thuringiensis* or viruses; the control of plant parasitic nematodes and the formulations for such agents. Other topics involved with crop production are the use of *Rhizobium* or cyanobacteria to fix nitrogen and increase the fertility of the soil; the use of mycorrhizal fungi to aid the plant to utilise nutrients and the use of microbial inoculants to enhance disease resistance in plants. The use of microorganisms in food processing covers the production of mushrooms, dairy products, beverages and fermented foods. Other chapters deal with the biodegradation of industrial waste, the commercial exploitation of microorganisms in agriculture and the exploitation of microorganisms in developing countries.

Due to the increased concern over the use of chemicals in the environment, research in the exploitation of microorganisms has progressed rapidly and a book like this is needed to bring together the inter-disciplinary research achievements in this diverse field. Additionally, as is emphasised in this book, microbial exploitation is extremely important in the developing countries where it offers a low-technology, cost-effective system of, for example, the control of insects or the preservation of foods.

It is a very interesting and comprehensive book for anyone who is working on research and development related to the exploitation of microorganisms and should stimulate cross-disciplinary collaboration.

Although, the chapters are multi-authored they are all written in a consistently readable style of high standard and are clearly illustrated with tables, diagrams and photographs. There is a slight overlap in subject matter between a few of the chapters, but this is unavoidable. One confusing factor, however, is the scattering of random words in bold print.

This book, however, could have been improved by the addition of an introductory chapter expanding on the reasons why these specific topics were brought together in one book. Additionally, it would have been

useful, to mention why such subjects as the exploitation of microorganisms in the medical field, probiotics and the use of Nisin in food were not covered. A chapter on the use of fungal pathogens to control insects would have been a useful addition, as there have been recent advances in formulation and in the understanding of the mechanisms of pathogenicity.

Vivien Dillon

**Introduction to Nutrition and Metabolism** By David A. Bender. UCL Press, London, UK, 1993. IX + 336 pp. ISBN 1-85728-078-4. Price: £40.00 (hardback) £14.95 (paperback)

Dr Bender has packed a lot of information into the 336 pages of his book, which I think will be useful chiefly to students needing an entry into the subject of nutrition. The first feature that stands out is the strong biochemical element that provides a grounding and point of access to the various nutritional topics subsequently covered.

Not only in courses on nutrition, but also in the life sciences and clinical sciences, the central importance of chemistry and biochemistry is now well-recognised, and a good knowledge of these subjects is regarded as mandatory, especially as a basis for medical and dental studies.

For this reason, and also because courses in nutrition are being increasingly introduced into the syllabuses of clinical and other scientific training programmes, Dr Bender's book, especially in its paperback form, could have a valuable function in providing students with all the information they need (and in many cases more!) for the completion of this kind of course.

For non-biochemists, I think that one of the barriers to embarking on the study of nutrition has been the extent of chemical/biochemical knowledge taken for granted in many of the better-known textbooks on nutrition. Dr Bender gives an introduction to basic chemical concepts and metabolic topics such as elements, compounds and ions and their properties, biologically important substances, their pathways of metabolism and enzyme systems. This leads into six or eight chapters on nutritional topics, but the strange thing is that even before the section on elementary chemistry there are two chapters on eating and diet and health: the diseases of affluence, which might more logically have been put with the later chapters on nutrition.

There are two useful brief appendices, one giving the nutrient values of some common foods and the other containing a glossary of some scientific and nutritional terms.

The book is illustrated with helpful line-drawings but some of the chemical formulae look as if they have been produced on a standard computer printer. The ones I have examined are technically correct, but some are on the small side and do not have the impact of the better-quality line drawings.

This is a small matter, however, and does not detract from the potential usefulness of the book, not only to undergraduate students but also to other scientists and clinicians with an interest in the field of nutrition.

**T. H. Grenby**