

## Book Reviews

**HACCP in Meat, Poultry and Fish Processing.** Edited by A. M. Pearson and T. R. Roberts. Blackie Academic & Professional, 1995. ISBN 0-751-40229-X. xv + 393 pp. Price: £85.00.

The international acceptance of HACCP as an effective means of assuring the production of safe foods has resulted in publication of a vast number of scientific papers, articles, comments and discussion documents on the subject and a multitude of training courses for food industry personnel. It is embraced in several EC Food Directives and has recently been integrated into UK food law. With such intense interest in HACCP it is surprising that comparatively few textbooks have materialised in this very topical area. This book therefore provides a significant contribution and underlines the importance attached to HACCP by industries and authorities represented therein.

The fourteen chapters, contributed by different authors, cover a wide range of topics within the scope of the subject, each providing a volume of information. Topics include implementation of HACCP on farms and fisheries and in manufacturing HACCP in retailing and food service operations, and HACCP in the home where the consumer is regarded as the weakest link in the food protection chain – comprehensively and literally from farm to mouth! Other chapters address the relationship of HACCP to risk analysis, total quality management and predictive microbiology; national/international cooperation among regulators for meat, poultry and fish is also discussed.

Not surprisingly, a certain amount of repetition occurs between the chapters in connection with descriptions of HACCP principles and programmes, but this is both inevitable and necessary in the context of individual authors developing their particular theme.

While the book focuses specifically on the relevant industries and their relationship to government department/agencies and other bodies in the USA, and to that extent could be considered to be narrow in its scope, the subject matter is nevertheless universally applicable and could prove to be a useful source of information on the topics concerned.

Unfamiliarity with the relationships between industry and government/advisory agencies in the USA caused some personal difficulty, but a lasting impression will be the prolific and frequent use of acronyms, which often made reading and understanding connections most difficult. A glossary of acronyms would not have been out of place.

A. J. Reynolds

**BIOTECHNOLOGY: Volume 9 Enzymes, Biomass, Food and Feed.** Edited by G. Reed & T. W. Nagodawithana, VCH, Weinheim, 1995. ISBN 3-527-28319-6. 804 pp. Price: £202.00

The book comprises four sections, covering enzymes, microbial biomass production, food fermentations, and the use in animal feeds of materials derived from fermentation industries or made by fermentation. With a few exceptions, chapters are relatively up to date with a fair sprinkling of references to papers published in 1994.

The enzymes section includes a large chapter on the nature of enzymes which provides an excellent but rather compressed coverage of all aspects and is not for the uninitiated. A chapter on enzymes as fine chemicals deals mainly with methods of purification. Two chapters deal with multi-enzyme systems and analytical uses of enzymes. The first includes a detailed consideration of metabolic control theory and its application to enhancing the yield of desired metabolic pathways while the second is a useful reminder of the principles of enzymic assays.

The production of single cell protein is largely of historical interest but this is not always made clear in the chapter on microbial biomass. On the one hand it is implied that the Pruteen process is still operating when, in fact, it ceased several years ago, and on the other hand it makes little mention of the Quorn process, which is a continuing and expanding commercial process. The chapter on the nutrition and safety of single cell protein does provide an interesting historical insight into the early days of single cell protein process.

The bulk of the book is thirteen chapters dealing with the whole gamut of food fermentations, including chapters on: baked goods; commercial production of baker's yeast; cheese; other fermented dairy products; brewing; wine, and brandy; indigenous fermented foods; cocoa fermentation; vinegar; olive fermentation; vegetable fermentations; use of enzymes in food processing; and carbohydrate-based sweeteners. These chapters generally have a strong technological bias and, in some cases, the reader is referred to other volumes in the series for details of the microbiology and biochemistry involved. Nevertheless, much of this section provides an excellent and up to date survey of current industrial practice in Europe and the United States.

The final chapter on fermented feeds provides an overview of the range of by-products from fermentation industries that are used in animal feeds as well as, rather briefly, a consideration of silage fermentation.