

Book Review

Biotechnology, Vol. 5: Food and Feed Production with Microorganisms

H. J. REHM AND G. REED, SERIES EDITORS,
G. REED, VOLUME EDITOR

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1983; \$198/volume, 631 pp.*

Biotechnology has as many definitions as groups working in the area. The editors of this incomplete 8-volume series appear to restrict their definition, despite their claim for a "comprehensive treatise in eight volumes," to traditional basic and industrial microbiology. The editors fall short in vol. 1 by failing to cover monoclonal antibodies and other areas now the focus of substantial effort in biotechnology. Plant biotechnology is missing from the entire series.

Volume 5 is a collection of chapters on industrial food microbiology. It is a good reference source for this area with coverage that is also available in other volumes on the subject.

The chapters on baked goods, wine and brandy, beer, cheese, and other dairy fermentations are particularly good from an industrial food microbiology viewpoint. Others, such as the chapters on vinegar, tea, and fermented foods of the orient are more like summaries of the area. The entire single-cell protein area is missing because of its coverage in vol. 3 of the series. Thus the contents of this volume do not match the title.

On closer examination, one has difficulty reconciling the title, *Biotechnology* with the contents of volume 5. Chapter 4, on cheese, notes the bovine rennet cloning work in a very brief subsection on enzyme use. It is as large as the unnecessary subsection on computer technology applications. Chapter 3, on beer, fails to mention genetic modifications of

yeast, as in the incorporation of amyloglucosidase into yeasts without that enzyme, production of a brewing yeast with a killer factor against wild yeasts, and a toxin against *lactobacilli*. Continuous beer production is also neglected.

Chapter 2, on wine and brandy, leaves out efforts to produce malate-decomposing yeasts. There is no discussion of the potential for genetic manipulation in this industry. Chapter 5 on fermented dairy product has the only section dealing with genetics. It appears in a discussion of the taxonomy of lactic acid bacteria. Genetic engineering is only briefly mentioned in a section on preparation of special cultures in the same chapter. No other chapter attempts to relate the traditional methods with new or potential developments.

One problem with the format is a lack of a table of contents with pagination for each chapter.

In conclusion, the book is a fine volume covering traditional industrial microbiology of foods. The book needs updating to supply what one expects to be covered under a biotechnology title. It is not a comprehensive treatise. This out-of-date volume is not a necessary purchase for already strained library budgets.

Stanley M. Barnett

Department of Chemical Engineering and
Food Science & Technology
University of Rhode Island
Kingston, RI 02881