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BOOK REVIEWS

Quantity Food Sanitation, 5th ed., by Karla Longrée and Gertrude Armbruster. Wiley, New York, 1996.

Reviewed by N. G. MARRIOTT, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, U.S.A.

This revised text appears to target the food-service industry as a reference book that addresses the sanitary handling of food. It updates the previous edition through discussion of changes in food handling and current knowledge of food contamination sources. The authors attempted to place more emphasis on including information as a reference book instead of a textbook required for college or industry training courses. It has merit as a valuable information source on how to combat new and old microbial problems in the sanitary management of food service. The authors state in the text that this edition of *Quantity Food Sanitation* aims to bring to the attention of food-service managers methods for controlling microbial problems of importance today.

The authors have addressed the subject of food sanitation through discussion of topics such as food spoilage, microorganisms responsible for food spoilage and foodborne illness, microbial reservoirs, procurement practices, food contamination, proliferation of contaminants, microwave heating, HACCP, food-service personnel education, and food protection certification programs. Furthermore, references for material presented and suggested additional readings are provided.

A basic background on microorganisms is given to provide the reader with an understanding of how contamination occurs and the control of microbial proliferation. An effective discussion of factors affecting microbial growth is provided in Chap. 2, which serves as a background for topics that follow. In addition to bacteria, a brief discussion of yeasts, molds, viruses, rickettsiae, and protozoa is included. Furthermore, foodborne illness and the microorganisms involved are discussed in four chapters.

A unique feature of this text is the discussion of sanitation considerations for the procurement of foods, including reference to various regulatory requirements and material found in manuals and handbooks. Another desirable feature is information provided for the prevention of contamination, including discussion of sanitary design, construction, and installation.

The strength of this text is the discussion about the microbial considerations of sanitation. The major thrust includes extensive treatment of microbial contamination of food and how this problem can be addressed. This subject matter is strengthened through extensive discussion of time–temperature considerations for the control of microbial growth.

Since the authors elected to concentrate on the microbial considerations of sanitation, this book can be categorized as a sanitation reference text with valuable information about the relationship of microorganisms to sanitation. Because of the attention given to microbial considerations, this text lacks essential information about other areas of sanitation. More discussion about cleaning compounds and sanitizers would be beneficial to the reader since these cleaning aids are essential to the maintenance of hygienic conditions. Furthermore, a discussion of cleaning procedures for specific areas and equipment would enhance the attainment of more effective sanitation practices.

Although the authors mention Hazard Analysis and Control Points (HACCP), further discussion of this safety approach would be appropriate. In the future, HACCP will surely receive more emphasis in the food-service industry. Furthermore, it would be desirable to address the interface of quality assurance with sanitation since this concept will surely receive more emphasis in the future.

In summary, this book is a valuable reference source for those involved with food-service sanitation. Its major strength is the discussion of the microbiology of sanitation. The book could be strengthened through more discussion about cleaning compounds, sanitizers, cleaning procedures, HACCP, and quality assurance. The bottom line is that those in the food-service industry should consider acquiring this book because of its value as a reference text.

Handbook of Milk Composition, edited by Robert G. Jensen. Academic Press, San Diego, 1995, 919 pp., $89.95.

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This volume is the latest in the Food Science and Technology Series. Edited by Robert G. Jensen, an internationally known expert on the lipids of human milk, this volume represents the first detailed compilation of the constituents and properties of human and bovine milks since the classic publication of Macy *et al.* (1953). With the improvement in analytical methodology in the ensuing 40 years, many hitherto unknown compounds have been identified. The emphasis of the text is on nutrition, reflecting recognition of the benefits of breast feeding on the health and well-being of the neonate through to adulthood. There are 12 chapters divided into subsections prepared by an international roster of 42 authors, which vary in length and information presented. The weakest portion of the text is the section on the structure/function of bovine milk proteins but up-to-date texts are available elsewhere. On the other hand, with the advent of new techniques for lipid analysis, the data presented are comprehensive and reliable. The text goes beyond a mere compilation of analytical data by including material on such diverse topics as milk sampling, milk processing, human milk storage and milk contaminants such as radionuclides, toxic metals, human medications, and veterinary drugs, and a comparative analysis of ''humanized'' commercial infant formulas. Milks of other mammals, only some of which are consumed by humans, are also included. Of particular interest are the detailed discussions of the distribution and function of minerals, ions, and trace elements present in milks along with analytical issues concerning their measurement. The authors have tried to provide the best data on milk composition currently in the literature; they have succeeded. The compositional data are only as good as the methods used for measurement. Some areas in which information is lacking have also been identified, such as in the determination of water-soluble vitamins, where many assays used for analysis in human milk lack sensitivity and accuracy. Upon completion of this book, the reader will have gained a new appreciation for the complexity of milk and its important role in human nutrition. The book will be invaluable to dairy researchers, food processors, and anyone else needing inclusive information on milk constituents.

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REFERENCE

MACY, I. G., KELLY, J. H., AND SLOAN, R. E. (1953). *The Composition of Milks.* Natl. Acad. Sci.–Natl. Res. Council, Pub. 254, Washington, DC.