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THE HANDBOOK OF FOOD MICROBIOLOGICAL ANALYTICAL METHODS

FIRST EDITION

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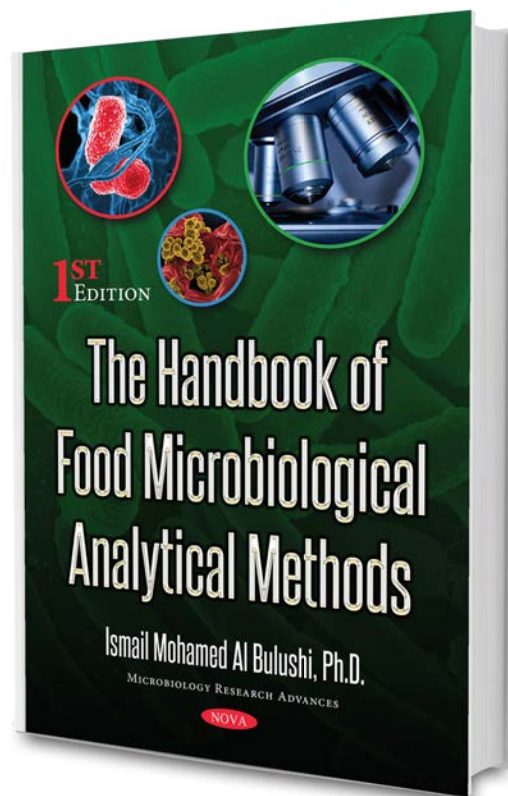
SOFTCOVER ISBN: 978-1-53612-473-6 **E-BOOK ISBN:** 978-1-53612-742-3

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BOOK DESCRIPTION: *The Handbook of Food Microbiological Analytical Methods* includes 31 topics and experiments distributed throughout five chapters, namely basic microbial skills, the enumeration of different microorganisms in foods, identification techniques and determination of microbial activities. Besides, the handbook includes useful sources in food microbial analyses such as the Food Microbiology E-sources and the primers for identification of common microbial pathogens. This handbook aims to provide and develop concerning food microbial skills in the users with simple steps to follow along with the theoretical explanation for better understanding. The uniqueness of this handbook includes topics that are rarely addressed in current food microbiology manuals and handbooks such as the enumeration of special bacterial groups such as marine and Gram-positive bacteria, introducing: A selective medium for enumeration of Gram-positive bacteria from marine sources for the first time; a technique for bacterial colonies randomization; a technique for recovery of injured/stressed bacteria; techniques to study bacterial potential such as spoiling foods; a technique that forms biogenic amines; and the production of antimicrobial activity and providing the specific specie primer pairs for common pathogens. The principles and procedures of some routinely used identification techniques – namely vitek, sequencing of 16S rRNA gene and specific genus and specie primers for bacterial identification – are provided with simple procedures. Enumeration and identification techniques of common pathogens and spoilers, namely *Staphylococcus aureus*, *Enterobacteriaceae*, *Escherichia coli*, *Salmonella* spp., *Listeria monocytogenes*, *Vibrio parahaemolyticus*, *Bacillus cereus* and *Shewanella putrefaciens* enumeration and identification techniques are also covered. These techniques are based on the International Standards such as ISO and U.S. Food and Drug Administration Standards and the media's manufacture instructions. This handbook is needed to conduct microbial analyses to determine food microbial quality and safety, food hygienic status and the microbial potential to spoil food, lose food safety and produce antimicrobial activity. This handbook was prepared to be used by students and young researchers. Therefore, it can be used in the universities as a practical manual in biology, microbiology, food microbiology, food safety, and food hygiene courses, as well in food laboratories which determine food microbial safety and quality. It is expected that this handbook will be a good and practical guide for students and researchers as well.

TABLE OF CONTENTS:

Preface
Acknowledgements
The Author
Chapter 1. Basic Microbial Skills
Chapter 2. Enumeration of Specific Microorganisms in Foods
Chapter 3. Enumeration and Identification of Pathogens in Foods
Chapter 4. Microbial Identification Techniques
Chapter 5. Determination of Microbial Activities
References
Appendix



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