Preface to the Adapted Edition

Overview

It is indeed an honor to be the adaptation author of the fifth edition of FOOD MICROBIOLOGY by Frazier and Westhoff. Earlier editions of this book have proved very popular for courses offering food microbiology across India.

The study of food microbiology has gained importance over time. The events leading to new discoveries and innovative practices have given this subject due credit—highlighting the presence of microorganisms in foods, the sources of contamination and their spoilage, the use of beneficial microorganisms in the production of commercially important foods, and preservation of the same. In the recent past, emphasis on food sanitation and control of microorganisms has gained importance, adding to the fact that this branch of microbiology has sustained the interest of every student and researcher in the field of food microbiology.

About the Book

The subject of food microbiology has undergone many developmental changes, which have been implemented in various university syllabi. To keep this edition abreast with the growing demands of the subject, it has been updated with discussions on latest advancements in the subject like Probiotics, Food Additives, HACCP, etc.

The content of the present edition caters to the needs of undergraduate and postgraduate students of food and dairy microbiology, food technology, and food sciences. Further, it has been provided with enhanced pedagogical features such as review questions and multiple-choice questions at the end of each chapter along with, case studies pertinent to Indian scenario.

Salient Features

The salient features of this edition are the following:

- Provides comprehensive coverage of all the important topics such as *Food as a Substrate for Microorganisms, Contamination of Foods, Principles of Food Preservation, Contamination, Preservation and Spoilage of Different Kinds of Foods, Enzymes Produced by Microorganisms, Foods in Relation to Disease, Food Sanitation, Control, and Inspection*
- Latest update on *seven principles of HACCP*
- Updated content on latest developments in the subject such as *Probiotics, Food Additives,* and *Foods of Indian Origin*

- Case Studies emphasizing on *Preservation of Foods by Irradiation, Enzymes in Food,* and *Food Safety*
- Rich pedagogy:
  - Illustrations: 160
  - Chapter-end Review Questions: 160
  - Multiple-Choice Questions: 282

Chapter Organization

The book is distributed into six parts and contains 28 chapters.

Part one involves the interactions between microorganisms and foods, food as a substrate, microorganisms in foods and the general principles underlying the spoilage of foods. This part contains chapters 1 to 4. The content helps the reader understand that food forms a substrate for the growth of microorganisms. The general characteristics of molds, yeast and bacteria—the microorganisms of importance in food microbiology—constitute an important section. The sources of contamination of foods and the general principles underlying food spoilage are also included in Part one.

Part two of the book contains topics related to principles of food preservation. Asepsis, preservation by the use of high temperatures, low temperatures, drying, use of food additives and the preservation of foods by radiations are included in chapters 5 to 10.

Part three, in chapters 11-20, concentrates on the contamination, preservation, and spoilage of different kinds of foods like cereals and cereal products, sugar and sugar products, vegetables and fruits, meat and meat products, fish and other seafood, spoilage of eggs, poultry, milk and milk products, spoilage of canned foods along with miscellaneous foods.

Foods and enzymes produced by microorganisms in **Part four** illustrates the production of cultures for food fermentations, production of various fermented foods and enzymes from microorganisms and the concept of probiotics in chapters 21-23.

Part five relates to foods in relation to diseases caused by bacterial and nonbacterial sources. Food-borne disease outbreaks, investigations and preventive measures are the highlights of chapters 24 to 26.

Food sanitation, control and inspection in **Part six**, containing chapters 27 and 28, relate to microbiology in food sanitation, and enforcement and control agencies.

Online Learning Center

This book is accompanied by an **Online Learning Center** which can be accessed at https://www.mhhe.com/frazier/fm5

This site contains chapter-wise questions and the Bibliography.

Acknowledgements

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The ever-increasing demand for food microbiologists worldwide with newer inventions and techniques to suit the modern needs, definitely paves a way for more advanced editions of the book in future.

Vanitha N M

Publisher's Note

Do you have any further request or a suggestion? We are always open to new ideas (the best ones come from you!). You may send your comments to *tmh.sciencemaths-feedback@gmail.com*

Piracy-related issues may also be reported!