Preface

The advances made since the publication of the first edition of *Biochemistry of Foods* in 1971 have been extraordinary. This was evident by the more comprehensive approach taken in preparing the second edition in 1990. In the third edition we have tried to keep true to the second edition by significantly updating certain chapters, adding several new chapters, and replacing the chapter on food enzymes with recombinant DNA technologies. It is a real privilege and pleasure to have written an important textbook that spans almost my entire career as a food biochemist. I was particularly delighted that Dr. Fereidoon Shahidi agreed to co-edit this edition and together we have tried to present a book that stands out as an authoritative textbook for teachers, students, and researchers in this very important and dynamic field in food science.

The book is organized into four major sections. Part I deals with important biochemical changes occurring in raw foods that affect quality. In addition to discussing the biochemistry of cereal development in Chapter 1, a section has been added on legumes. Chapter 2 covers postharvest changes in fruits and vegetables with a more extensive discussion of flavor and storage. Chapter 3 provides an in-depth discussion of postmortem changes responsible for converting muscle into edible meat and fish. Chapter 4 covers the latest information on the complex chemical changes involved in the biosynthesis of milk. The last chapter in this section, Chapter 5, presents important information on the biochemical changes associated with the development of eggs. Part II focuses on the biochemical changes occurring during processing. Chapter 6 presents an extensive coverage of non-enzymatic browning reactions in foods during heating and storage. Chapter 7 details the biochemistry of brewing, and Chapter 8 provides a detailed discussion of the biochemical processes involved in producing cheese and yogurt. Chapter 9 reviews oil processing and fat modification. Part III deals with selected areas associated with food spoilage. Chapter 10 presents a detailed discussion of enzymatic browning, while Chapter 11 provides a comprehensive review of lipid oxidation. The final chapter in this section, Chapter 12, provides an updated and revised coverage of off-flavors in milk. The final section, Part IV, on Biotechnology, provides an extensive review of recombinant DNA technologies in Chapter 13.

In this edition we are particularly grateful to colleagues from around the world for their important contributions to many of the chapters in this book. We are also appreciative of our wives for allowing us the many hours needed to pull this book together. Finally, we would like to acknowledge the outstanding editorial assistance provided by the staff of Elsevier that made the completion of this book a labor of love.

N.A. Michael Eskin and Fereidoon Shahidi