Preface

Case Studies in Food Safety and Environmental health is intended as a reference for incorporating case studies into a traditional food safety lecture course. It will also be useful in developing case studies for problem-based learning. The book is divided into three main sections which contain case studies that can be used, individually or together as a series, to discuss a range of food safety issues covering *microbial food safety*, *chemical residues and contaminants*, *risk assessment* and *food legislation*. Chapters begin with a summary of the issues that will be examined and the objectives and learning outcomes for each case study are outlined. Discussion questions are included to focus the reader on the major issues but also to consider how other relevant factors affect the outcome or decisions made by the persons involved. A list of references is included at the end of each chapter that will allow the reader to examine the case study in greater detail.

Part I contains case studies that examine, in a more general framework, a number of specific issues. **Chapter 1** deals with the potential hazards associated with acrylamide originating from processed foods, while **Chapter 2** considers nitrate contamination of the environment in Romania and efforts made to address this problem. Residual pesticides in olive oil that are endocrine disrupting compounds are the concern of **Chapter 3**, with microbial food safety issues tackled in the final two chapters. **Chapter 4** examines *Clostridium botulinum* and Botulism while **Chapter 5** looks at *Listeria monocytogenes* and Listeriosis.

In part II, food safety issues are examined from an historical perspective. **Chapter 6** looks at the Toxic Oil Syndrome case that occurred in Spain in the 1980s, while **Chapter 7** covers a case on aflatoxins in Hungarian paprika in 2004. Botulism and listeriosis are again the topic of microbial food safety. **Chapter 8** looks at an outbreak of Botulism related to mascarpone cheese that occurred in Italy in 1996, while **Chapter 9** deals with a case on listeriosis from butter in Finland between 1998 and 1999 that affected hospital patients.

Finally part III takes on food safety from the perspective of the researcher. Cases are based around experimental data and examine the importance of experimental planning, design and analysis. The reader is required to not only consider the food safety issues at hand but also how to approach an investigation. The possibility of

replacing chemical fertilizers and soil additives with alternative treatment methods for plant growth is examined in **Chapter 10**, with **Chapter 11** looking at heavy metals in organic and non-organic milk. **Chapter 12** deals with aflatoxins in fish feed affecting rainbow trout in Estonian fish farms in the 1980s, while **Chapter 13** examines mycotoxins in cereal products.

We hope that this book will eventually be part of an arsenal of tools that will be available for teaching food safety concepts and issues, in a practical and applied framework, to an ever demanding community of learners.

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