

Preface

The food industry has long attempted to find adequate means for transforming agricultural produce into a suitable form for human consumption with enhanced safety and marginal cost of production. Growing demands for quality foods including enhanced nutritive value and safety poses great challenges for research. At the same time, consumer expectations need to be met regarding convenience, variety, enhanced shelf life, lower production costs as well as adequate caloric content. Also, the production process should not cause an adverse impact on the environment and should be energy efficient. This calls for advancement and modification of existing procedures, including possible replacements of current techniques applied in the food processing industry. High-pressure technology in food processing is a viable solution for meeting all these requirements. It allows for food preservation by nonthermal means inactivating harmful pathogens and preventing vegetative spoilage by microorganisms by using pressure rather than heat to effect pasteurization. High-pressure technology can lead to adequate food preservation while causing minimal changes regarding taste, texture, appearance, and nutritional value. This technology is among the most prominent recent innovations in food processing.

The present book contains major sections on the application of high pressure on plant products, dairy products, and animal products. While not being able to cover the entire field, the writing of this book was driven by the desire to compile and review the latest literature. I chose to address not only the most recent applications, but also novel and standard applications that have emerged as a response to the challenges faced by the food industry. This book attempts to provide an in-depth view into this important technology and to direct its readers to additional and valuable sources of further information regarding research and development.

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