DESCRIPTION

The second edition of the Food Processing Handbook presents a comprehensive review of technologies, procedures and innovations in food processing, stressing topics vital to the food industry today and pinpointing the trends in future research and development.

Focusing on the technology involved, this handbook describes the principles and the equipment used as well as the changes - physical, chemical, microbiological and organoleptic - that occur during food preservation. In so doing, the text covers in detail such techniques as post-harvest handling, thermal processing, evaporation and dehydration, freezing, irradiation, high-pressure processing, emerging technologies and packaging. Separation and conversion operations widely used in the food industry are also covered as are the processes of baking, extrusion and frying. In addition, it addresses current concerns about the safety of processed foods (including HACCP systems, traceability and hygienic design of plant) and control of food processes, as well as the impact of processing on the environment, water and waste treatment, lean manufacturing and the roles of nanotechnology and fermentation in food processing.

This two-volume set is a must-have for scientists and engineers involved in food manufacture, research and development in both industry and academia, as well as students of food-related topics at undergraduate and postgraduate levels.
From Reviews on the First Edition:

“This work should become a standard text for students of food technology, and is worthy of a place on the bookshelf of anybody involved in the production of foods.”

Journal of Dairy Technology, August 2008

“This work will serve well as an excellent course resource or reference as it has well-written explanations for those new to the field and detailed equations for those needing greater depth.”

CHOICE, September 2006

About the Author

James G. Brennan qualified with a BSc(Hons) degree in Dairy Science from University College Cork, Ireland, in 1959. In 1960 he obtained an MSc degree, by research, in the same subject. Following a short spell in industry he moved to the National College of Food Technology (NCFT), Weybridge, UK, to undertake a postgraduate course in Food Technology. On successful completion of that course he joined the academic staff of NCFT. In 1966 NCFT became part of the University of Reading. In 1982 NCFT moved from Weybridge to the main University of Reading campus. Mr Brennan continued as a member of the academic staff of the University of Reading until his retirement in 2002, completing over forty years of service. His teaching interests were mainly in food dehydration, food packaging and separation operations. His research interests were in the fundamentals of dehydration and physical/textural properties of foods and their measurement. He supervised over twenty PhD students and published well over one hundred research and technical papers. He is author of a book on food dehydration and coauthor with three colleagues of a well known book on food engineering operations. He edited and contributed material to the first edition of this book. He also collaborated with industry in a number of projects. Together with his wife, Anne, he travelled widely during his career including extended stays teaching and researching in Australia and the USA. In retirement he continues to write, edit and review papers and books in his field.

Alistair S. Grandison qualified with a BSc (Hons) in Biochemistry from the University of Liverpool in 1973 and a PhD from the same university in 1976. Following a short spell at the Royal Liverpool Hospital he moved to the National Institute for Research in Dairying where he worked on cheese and dairy products. In 1987 he moved to the University of Reading as a lecturer. He is currently a Senior Lecturer in the Department of Food and Nutritional Sciences where his teaching interests include dairy science and food processing in general. His research has covered many aspects of dairy science and technology including the lactoperoxidase system, separation processes and the coagulation of milk and manufacture of dairy products, frequently involving
industrial collaboration. He has supervised 25 PhD students and published around 150 research papers, edited one book and written a number of book chapters.

NEW TO EDITION

This 2nd edition has 35% new material. The entire handbook has been revised, updated and expanded and includes 9 entirely new chapters, ranging from Emerging Technologies to the Use of Enzymes to Traceability to Nanotechnology.

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