

1. Record Nr.	UNINA9910860826703321
Titolo	Handbook of food preservation // edited by Mohammad Shafiur Rahman
Pubbl/distr/stampa	Boca Raton, FL : , : CRC Press, Taylor & Francis Group, , [2020]
ISBN	1-4987-4049-9 0-429-09148-6 0-429-53135-4
Edizione	[Third edition.]
Descrizione fisica	1 online resource (xx, 1,082 pages) : illustrations
Disciplina	664.028
Soggetti	Food - Preservation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
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The processing of food is no longer simple or straightforward, but is now a highly inter-disciplinary science. A number of new techniques have developed to extend shelf-life, minimize risk, protect the environment, and improve functional, sensory, and nutritional properties. Since 1999 when the first edition of this book was published, it has facilitated readers' understanding of the methods, technology, and science involved in the manipulation of conventional and newer sophisticated food preservation methods. The Third Edition of the Handbook of Food Preservation provides a basic background in postharvest technology for foods of plant and animal origin, presenting preservation technology of minimally processed foods and hurdle technology or combined methods of preservation. Each chapter compiles the mode of food preservation, basic terminologies, and sequential steps of treatments, including types of equipment required. In addition, chapters present how preservation method affects the products, reaction kinetics and selected prediction models related to food stability, what conditions need be applied for best quality and safety, and applications of these preservation methods in different food products. This book emphasizes practical, cost-effective, and safe strategies for implementing preservation techniques for wide varieties of food products. Features: Includes extensive overview on the postharvest handling and treatments for foods of plants and animal origin Describes comprehensive preservation methods using chemicals and microbes, such as fermentation, antimicrobials, antioxidants, pH-lowering, and nitrite Explains comprehensive preservation by controlling of water, structure and atmosphere, such as water activity, glass transition, state diagram, drying, smoking, edible coating, encapsulation and controlled release Describes preservation methods using conventional heat and other forms of energy, such as microwave, ultrasound, ohmic heating, light, irradiation, pulsed electric field, high pressure, and magnetic field Revised, updated, and expanded with 18 new chapters, the Handbook of Food Preservation, Third Edition, remains the definitive resource on food preservation and is useful for practicing industrial and academic food scientists, technologists, and engineers.
