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Nota di contenuto	Food Processing Handbook; Food Processing Handbook; Contents; Preface to the Second Edition; Preface to the First Edition; List of Contributors; 1 Postharvest Handling and Preparation of Foods for Processing; 1.1 Introduction; 1.2 Properties of Raw Food Materials and Their Susceptibility to Deterioration and Damage; 1.2.1 Raw Material Properties; 1.2.1.1 Geometric Properties; 1.2.1.2 Color; 1.2.1.3 Texture; 1.2.1.4 Flavor; 1.2.1.5 Functional Properties; 1.2.2 Raw Material Specifications; 1.2.3 Deterioration of Raw Materials; 1.2.4 Damage to Raw Materials 1.2.5 Improving Processing Characteristics through Selective Breeding and Genetic Engineering1.3 Storage and Transportation of Raw Materials; 1.3.1 Storage; 1.3.1.1 Temperature; 1.3.1.2 Humidity; 1.3.1.3 Composition of Atmosphere; 1.3.1.4 Other Considerations; 1.3.2 Transportation; 1.4 Raw Material Cleaning; 1.4.1 Dry Cleaning

Methods; 1.4.2 Wet Cleaning Methods; 1.4.3 Peeling; 1.5 Sorting and Grading; 1.5.1 Criteria and Methods of Sorting; 1.5.2 Grading; 1.6 Blanching; 1.6.1 Mechanisms and Purposes of Blanching; 1.6.2 Processing Conditions; 1.6.3 Blanching Equipment
 1.7 Sulfiting of Fruits and VegetablesReferences; 2 Thermal Processing; 2.1 Introduction; 2.1.1 Reasons for Heating Foods; 2.1.2 Safety and Quality Issues; 2.1.3 Product Range; 2.2 Reaction Kinetics; 2.2.1 Microbial Inactivation; 2.2.2 Heat Resistance at Constant Temperature; 2.3 Temperature Dependence; 2.3.1 Batch and Continuous Processing; 2.3.2 Continuous Heat Exchangers; 2.3.2.1 Direct Heating; 2.4 Heat Processing Methods; 2.4.1 Thermization; 2.4.2 Pasteurization; 2.4.2.1 HTST Pasteurization; 2.4.2.2 Tunnel (Spray) Pasteurizers; 2.4.2.3 Extended Shelf Life Products; 2.4.3 Sterilization
 2.4.3.1 In-Container Processing2.4.3.2 UHT Processing; 2.5 Special Problems with Viscous and Particulate Products; 2.6 Ohmic Heating; 2.6.1 Introduction; 2.6.2 Fundamental Principles of Ohmic Heating; 2.6.2.1 Electrochemical Reaction on Electrodes; 2.6.2.2 Heating Pattern of Multiphase Food in Ohmic System; 2.6.2.3 Modeling of Ohmic Heating; 2.7 Filling Procedures; 2.8 Storage; References; 3 Evaporation and Dehydration; 3.1 Evaporation (Concentration, Condensing); 3.1.1 General Principles; 3.1.2 Equipment Used in Vacuum Evaporation; 3.1.2.1 Vacuum Pans; 3.1.2.2 Short Tube Vacuum Evaporators
 3.1.2.3 Long-Tube Evaporators3.1.2.4 Plate Evaporators; 3.1.2.5 Agitated Thin-Film Evaporators; 3.1.2.6 Centrifugal Evaporators; 3.1.2.7 Refractance Window Evaporator; 3.1.2.8 Ancillary Equipment; 3.1.3 Multiple-Effect Evaporation; 3.1.4 Vapor Recompression; 3.1.5 Applications for Evaporation; 3.1.5.1 Concentrated Liquid Products; 3.1.5.2 Evaporation as a Preparatory Step to Further Processing; 3.1.5.3 The Use of Evaporation to Reduce Transport, Storage, and Packaging Costs; 3.2 Dehydration (Drying); 3.2.1 General Principles; 3.2.2 Drying Solid Foods in Heated Air
 3.2.3 Equipment Used in Hot Air Drying of Solid Food Pieces

Sommario/riassunto

The second edition of the Food Processing Handbook presents a comprehensive review of technologies, procedures and innovations in foodprocessing, 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 aspost-harvest handling, thermal processing, evapora