Food processing is the transformation of raw ingredients into food, or of food into other forms. Food processing typically takes clean, harvested crops or butchered animal products and uses these to produce attractive, marketable and often long shelf-life food products. Benefits of food processing include toxin removal, preservation, easing marketing and distribution tasks, and increasing food consistency. In addition, it increases yearly availability of many foods, enables transportation of delicate perishable foods across long distances and makes many kinds of foods safe to eat by de-activating spoilage and pathogenic micro-organisms. Processed foods are usually less susceptible to early spoilage than fresh foods and are better suited for long distance transportation from the source to the consumer. The extremely varied modern diet is only truly possible on a wide scale because of food processing. Food Dehydration is a method of food preservation that works by removing water from the food, which inhibits the growth of microorganisms. The dehydration process has to check various parameters like heat-mass transfer, atmospheric pressure, equipments suitable for drying etc. to ensure suitable dehydration of food. Food processing techniques have to take measures on to maintain food safety and control risks and hazards associated with food processing. The book includes dehydration process of Onion, roasting of coffee beans, development process of Guava squash, preparation of fried potato chips, processing of rice, butter and margarine, canning of chilies Plums, processing and preservation of jack fruit, characteristics of sweetened dahi, cereal grains, instant chutneys from pudina and gongura, starch isolated from potato tubers, coating of cashew kernel baby bits, ripening changes in mango fruits, mechanical and thermal properties of maize, storage of basmati rice under carbon dioxide-rich atmosphere, effect of different varieties of soya bean on quality of paneer, analysis of menthol content in pan masala samples, preparation of dehydrated potato cubes, quality evaluation of raw dried mango slices khatai and mango powder amchur, packaging and storage of biscuits containing finger millet flour, storage effect on microbial safety of potato flour, processing and quality evaluation of ready-to-eat watermelon nectars etc. The book is highly recommended to new entrepreneurs, existing units who wants to get more information of processing of fruits and vegetables.
Storage of Basmati Rice Under Carbon Dioxide - Rich Atmosphere
Materials and Method, Results and Discussion, Conclusion
2. Storage Stability of Instant Vegetable Pulav Mix
Materials and Methods, Results and Discussion
3. Food Dehydration and Concentration
Food Dehydration, Heat and Mass Transfer, Surface Area, Temperature, Air Velocity, Humidity, Atmospheric Pressure and Vacuum, Evaporation and Temperature, Time and Temperature, Normal Drying Curve, Effects of Food Properties on Dehydration, Constituent Orientation, Solute Concentration, Binding of Water, Cellular Structure, Shrinkage, Case Hardening, Thermoplasticity, Porosity, Chemical Changes, Optimization of Variables, Drying Methods and Equipment, Air Convection Driers, Kiln Drier, Cabinet, Tray, and Pan Driers, Tunnel and Continuous Belt Driers, Belt Trough Drier, Air Lift Drier, Fluidized-Bed Drier, Spray Driers, Drum or Roller Driers, Vacuum Driers, Vacuum Shelf Dries, Continuous Vacuum Belt Drier, Freeze-Drying, Atmospheric Drying of Foams, Food Concentration, Preservative Effects, Reduced Weight and Volume, Methods of Concentration, Solar Concentration, Open Kettles, Flash Evaporators, Thin-Film Evaporators, Vacuum Evaporators, Freeze Concentration, Ultrafiltration and Reverse Osmosis, Changes During Concentration, Intermediate-moisture Foods, Principles Underlying Technology, Determining Water Activity, Products and Technology
4. Dehydration of Onions
5. Mechanical and Thermal Properties of Maize
Materials and Methods, Results and Discussion
6. D-Value of Trypsin Inhibitor in Soybeans in Tomato Sauce
7. Roasting of Coffee Beans
Roasting process, Physical properties, Swelling ratio, Breaking strength, Colour value, Organoleptic evaluation
8. Canning of Chili Plums (Spondias purpurea var. lutea) in Syrup
Materials and Methods, Canning, Sensory evaluation, Chemical analysis, Physical analysis, Microbial analysis, Statistical analysis, Results and Discussion, Storage methods, Sensory evaluation, Chemical composition, Cut-out analysis, Microbial analysis, Conclusion:
10. Microbiological, Chemical and Ultrastructural Characteristics of Mishti Doi (Sweetened Dahl)
Microbiological analysis, Chemical analysis, Preparation of sample for SEM
11. Processing and Preservation of Jack Fruit (Artocarpus heterophyllus L.) Bar (Thandra)
12. Instant Chutneys from Pudina (Mint, Mentha spicata) and Gongura (Hibiscus sp)
13. Cereal Grains; Legumes, and Oilseeds
Cereal Grains, General Composition and Structure, Wheat, Conventional Milling, Uses of Wheat Flour and Granules, Rice, Milling, Enrichment, Improved Varieties, Rice Products, Corn, Dry Milling, Wet Milling, Corn Sugars, Alcohol from Corn, Barley, Oats, Rye, Breakfast Cereals, Some Principles of Baking, Major Baking Ingredients and Their Functions, Gluten and Starch of Wheat Flour, Leavening Agents, Yeast, Baking Powders, Eggs, Shortening, Sugar, The Baking Step, Legumes and Oilseeds, General Compositions, Protein Supplementation and Complementation, Soybean Technology, Peanuts, Some Special Problems
14. Effect of Different Varieties of Soybean on Quality of Paneer
15. Effect of Temperature on Rheological Characteristics of Garlic and Onion Pastes
16. Tray Over-wrapping of ‘Mosambi’ Sweet Orange
17. Analysis of Menthol Content in Pan Masala Samples
18. Effect of Processing on Mancozeb Residues in Apple
19. Sensory and Yield Response Surface Analysis of Supercritical CO2 Extracted Aromatic Oil from Roasted Coffee
Materials and Methods, Results and Discussion
20. Effect of Pre-treatments on Quality of Soypaneer
21. Use of Isabgol (Psyllium mucilloid) Husk in Atta for Chapati Making
22. Air Drying Behaviour of Osmotically Dehydrated Pineapple
   Theoretical consideration, Materials and Methods, Results and Discussion, Conclusion
23. Studies on Suitability of Cultivar, Frying Medium and Packaging for Potato Chips
24. Use of Sorbitol for the Preparation of Plum Seasoned Squash
25. MilleT-based Food Products for Diabetics
26. Defatted Mucuna Flour in Biscuits Formulation
27. Effect of incorporation of Liquid Dairy by-products
   on Chemical Characteristics of Soy-fortified Biscuits
28. Effect of Hydrocolloids on the Rheology of Tamarind Sauce
   Materials and Methods, Results and Discussion
29. Optimization of Process Variables for Preparation of Fresh Fried Potato Chips
30. Effect of Modified Atmosphere Packaging on Low Molecular Weight Carbohydrates of Oyster
   Mushrooms
   Materials and Methods, Results and Discussion
31. Starch Isolated from Potato Tubers (Solanum tuberosum L.)
   Materials and Methods, Results and Discussion, Conclusions
32. Processing and Quality Evaluation of Ready-to- eat Watermelon Nectars
33. Pre-treatment Effect on Drying Characteristics and
   Colour of Dehydrated Green Chillis
34. Mass Transfer During Melon Processing by Combined Methods
   Materials and Methods, Results and Discussion
35. Effect of Rice Bran and Palm Oil on the Lipid and Fatty Acid Composition of Brain Tissue
   Materials and Methods, Results and Discussion
36. Storage Effect on Microbial Safety of Potato Flour
37. In vitro and In vivo Availability of Iron from Bathua (Chenopodium album) and Spinach (Spinacia
   oleracea) Leaves
   Materials and Methods, Results and Discussion, Conclusion
38. Packaging and Storage of Biscuits Containing Finger Millet (Ragi) Flour
39. Quality Evaluation of Raw Dried Mango Slices Khatam
   and Mango Powder Amchur
   Materials and Methods, Results and Discussion
40. Development of a Chemically Leavened Cereal-Legume Based Instant Mix (Dhokla)
   Materials and Methods, Results and Discussion, Effect of different process parameters and ingredients,
   Conclusion
41. Vegetables and Fruits
   General Properties, Gross Composition, Structural Features, Turgor and Texture, Cell Turgor, Other Factors
   Affecting Texture, Cellulose, Hemicellulose, and Lignin, Pectic Substances, Starch, Color and Color
   Changes, Chlorophylls, Carotenoids, Anthocyanins, Flavonoids, Tannins, Betalains, Activities of Living
   Systems, Harvesting and Processing of Vegetables, Varietal Differences, Harvesting and Preprocessing
   Considerations, Postharvest Practices, Washing, Skin Removal, Cutting and Trimming, Blanching, Canning,
   Harvesting and Processing of Fruits, Varietal Differences, Fruit Quality, When to Pick, Quality Measurements,
   Harvesting and Processing, Freezing, Heat Blanching, Ascorbic Acid Dip, Sulfur Dioxide Dip, Sugar Syrup,
   Vacuum Treatment, Concentration and Drying, Fruit Juices, Extraction, Clarification, Deaeration, Additional
   Steps, Biotechnology,
42. Coating of Cashew Kernel Baby Bits, Materials and
   Methods, Results and Discussion, Conclusion
43. Moisture Content and Temperature Effects on
   thermal Properties of Potato
   Materials and Methods, Results and Discussion
44. Concentration and Temperature effect on the Rheology
   of Mango Pulp
45. Rheological Properties of Fried Paneer by Response
Surface Methodology
Materials and Methods, Results and Discussion
46. Phenolic Antioxidants of Common Pulses
47. Preparation of Dehydrated Potato Cubes
Materials and Methods, Results and Discussion
48. Strength Properties of Soybean Grain in Axial Compression
49. Sensory Evaluation, b-carotene Retention and Shelf-life of Dehydrated Carrot Products
Drying behaviour and b-carotene retention in dehydrated carrots
50. Utilization and Evaluation of Potato, Cocoyam and Wheat Flour Composite for Bread Preparation
51. Improved Cooking Quality Test for Basmati Rice
Materials and Methods, Results and Discussion, Conclusion
52. Processing of Rice
53. Ripening Changes in Mango (Mangifera Indica L.) Fruits
54. Cottage Industry for Dehydrating Whole Egg
55. Butter and Margarine
Butter Varieties and Grades, Structure and Composition, Flavour and Aroma, Consistency and Texture, Spoilage, Butter Manufacture, Margarine, Flavour, Consistency, Ingredients, Margarine Manufacture, Deteriorations
56. Food Safety, Risks And Hazards
Introduction, Safety, Hazards, And Risks, Food-related Hazards, Biological Hazards, Nutrition-Related Diseases, Trace Chemicals, Direct Food Additives and Macrocomponents of Foods, Physical Hazards, Microbiological Considerations In Food Safety, Effects of Processing And Storage on Microbial Safety, Freezing And Refrigeration, Minimally Processed and New Foods, Microbio-logical Methodology, Haccp as a Method to Prevent Food-borne Illness, Chemical Hazards Associated With Foods, Broad Classes of Intentional Food Additives, Preservatives, Antioxidants, Sequestrants, Surface Active Agents, Stabilizers and Thickeners, Bleaching and Maturing Agents, Starch Modifiers, Buffers, Acids, Alkalies, Food Colors, Artificial Sweeteners, Nutritional Additives, Flavoring Agents, Miscellaneous Additives, Macro-components and Foods Substitutes

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