

Fruit And Vegetable Processing Improving Quality Woodhead Publishing Series In Food Science Technology And Nutrition

Introduction to minimally processed refrigerated fruits and vegetables; Initial preparation, handling, and distribution of minimally processed refrigerated fruits; Preservation methods for minimally processed refrigerated fruits and vegetables; Packing of minimally processed fruits and vegetables; Some biological and physical principles underlying modified atmosphere packaging; Microbiological spoilage and pathogens in minimally processed refrigerated fruits and vegetables; Nutritional quality of fruits and vegetables subject to minimally processes; Regulatory issues associated with minimally processed refrigerated foods.

Fruit and fruit products, in all their many varieties and variations, are major world commodities and part of the economic life blood of many countries, particularly in the developing world. The perception of the healthy nature of fruit is a major reason for its increased consumption in the developed world, and many consumers today find a wider selection of fruit varieties, available at all times of the year, than ever before. This volume, however, is not so much concerned with fresh fruit as those principal areas of processing to which it may be subjected. Fruit processing arose as a means of utilising a short-lived product and preserving its essential nutritional qualities as far as possible. A chapter on the nutritional aspects of fruit is included in this work to reflect the importance of this topic to most consumers. After a general introduction, the chapter on fruit storage is the only contribution which deals with a process from which fruit emerges in essentially the same physical condition. Beyond that the book sets out to cover most of the major areas in which fruit may be processed into forms which bear varying semblances to the original raw material.

Fruit and vegetables are both major food products in their own right and key ingredients in many processed foods. There has been growing research on their importance to health and techniques to preserve the nutritional and sensory qualities desired by consumers. This major collection summarises some of the key themes in this recent research. Part one looks at fruit, vegetables and health. There are chapters on the health benefits of increased fruit and vegetable consumption, antioxidants and improving the nutritional quality of processed fruits. Part two considers ways of managing safety and quality through the supply chain. A number of chapters discuss the production of fresh fruit and vegetables, looking at modelling, the use of HACCP systems and ways of maintaining postharvest quality. There are also two chapters on instrumentation for measuring quality. Two final chapters look at maintaining the safety and quality of processed fruit and vegetables. Part three reviews technologies to improve fruit and vegetable products. Two chapters consider how to extend the shelf-life of fruits and vegetables during cultivation. The following three chapters then consider how postharvest handling can improve quality, covering minimal processing, new modified atmosphere packaging techniques and the use of edible coatings. Two final chapters discuss two major recent technologies in processing fruit and vegetables: high pressure processing and the use of vacuum technology. With its distinguished editor and international team of contributors, Fruit and vegetable processing provides an authoritative review of key research on measuring and improving the quality of both fresh and processed fruits and vegetables. Reviews recent research on improving the sensory, nutritional and functional qualities of fruit and vegetables, whether as fresh or processed products Examines the importance of fruits and vegetables in processed foods and outlines techniques to preserve the nutritional and sensory qualities desired by consumers Discusses two major technologies in processing fruits and vegetables: high pressure processing and the use of vacuum technology

This book contains 14 chapters focusing on the usefulness of controlled atmosphere (CA) storage in the reduction of postharvest losses and maintenance of the nutritive value and organoleptic characteristics of various fruits and vegetables and extend their season of availability by making good eating quality fruits and vegetables available for extended periods at reasonable costs. The efficacy and shortcomings of various CA storage techniques and their potential as alternatives to the application of preservation and pesticide chemicals are also discussed.

Handbook of Fruits and Fruit Processing

Report to the Congress [on The] Agricultural Marketing Service ... [and The] Food and Drug Administration ...

Advances in Fruit Processing Technologies

Processing of Fruits and Vegetables

Improving the Safety of Fresh Fruit and Vegetables

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

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 chillies 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. While products such as bananas, pineapples, kiwifruit and citrus have long been available to consumers in temperate zones, new fruits such as lychee, longan, carambola, and mangosteen are now also entering the market. Confirmation of the health benefits of tropical and subtropical fruit may also promote consumption further. Tropical and subtropical fruits are particularly vulnerable to postharvest losses, and are also transported long distances for sale. Therefore maximising their quality postharvest is essential and there have been many recent advances in this area. Many tropical fruits are processed further into purees, juices and other value-added products, so quality optimisation of processed products is also important. The books cover current state-of-the-art and emerging post-harvest and processing technologies. Volume 1 contains chapters on particular production stages and issues, whereas Volumes 2, 3 and 4 contain chapters focused on particular fruit. Chapters in Volume 4 review the factors affecting the quality of different tropical and subtropical fruits from mangosteen to white sapote. Important issues relevant to each product are discussed, including means of maintaining quality and minimising losses postharvest, recommended storage and transport conditions and processing methods, among other topics. With its distinguished editor and international team of contributors, Volume 4 of Postharvest biology and technology of tropical and subtropical fruits, along with the other volumes in the collection, are essential references both for professionals involved in the postharvest handling and processing of tropical and subtropical fruits and for academics and researchers working in the area. Along with the other volumes in the collection, Volume 4 is an essential reference for professionals involved in the postharvest handling and processing of tropical and subtropical fruits and for academics and researchers working in the area Reviews factors affecting the quality of different tropical and subtropical fruits, concentrating on postharvest biology and technology Important issues relevant to each particular fruit are discussed, such as postharvest physiology, preharvest factors affecting postharvest quality and pests and diseases

Manley ' s Technology of Biscuits, Crackers and Cookies is widely regarded as the standard work in its field. Part one covers management issues such as HACCP, quality control, process control and product development. Part two deals with the selection of raw materials and ingredients. The range and types of biscuits is covered in part three, while part four covers the main production processes and equipment, from bulk handling and metering of ingredients to packaging, storage and waste management. Eight expert authors have joined Duncan Manley in extensively updating and expanding the book, which is now some 25% longer than the previous edition. Part one now includes a new chapter on sustainability in the biscuit industry and the discussion of process and efficiency control is more detailed. In part two the information on wheat flour has been extensively revised to reflect recent developments and there are entirely new chapters on fats and oils and packaging materials. Photographs of the major types of biscuits now illustrate chapters in part three, which also includes a newly-composed chapter on the position of biscuits in nutrition. Finally, part four has been comprehensively reviewed and revised with the assistance of an author from a major machinery manufacturer. With its distinguished editor and team of expert contributors this new edition consolidates the position of Manley ' s Technology of Biscuits, Crackers and Cookies as the standard reference work in the industry. Widely regarded as the standard work in its field Covers management issues such as HACCP, quality control, process control and product development Deals with the selection of raw materials and ingredients

Advances in Fresh-Cut Fruits and Vegetables Processing

Fruit And Vegetable Processing - Improving Quality

Emerging Trends

Packaging and Storage of Fruits and Vegetables

Mangosteen to White Sapote

FAO and the World Health Organization (WHO) recommend a daily fruit and vegetable (F&V) intake of at least 400 grams/adult. However, low F&V intake has become a global public health problem. The promotion of F&Vs in the International Year of Fruits and Vegetables emphasizes unprocessed or minimally processed F&Vs, which are highly beneficial to health. However, processing can improve food safety, especially from microbiological contamination, and reduce loss and waste. Conversely, F&Vs which are highly processed can undermine the health benefits of F&V consumption.

The second edition of a bestseller, Handbook of Vegetable Preservation and Processing compiles the latest developments and advances in the science and technology of processing and preservation of vegetables and vegetable products. It includes coverage of topics not found in similar books, such as nutritive and bioactive compounds of vegetables; veg

One of the main concerns of the food industry is the need for high-quality fresh fruits and fruit products with good sensory quality, long shelf life, and high nutritional value. To meet these demands, new processing technologies are under investigation and development. Advances in Fruit Processing Technologies incorporates fundamentals in food processing as well as the advances made in recent years to improve final product quality. With contributions from a panel of international researchers who present a blend of classical and emerging technologies, the book explores: Ozone, ultrasound, irradiation, pulsed electric field, vacuum frying, and high-pressure processing Ultraviolet and membrane processing Enzymatic maceration, freeze concentration, and refrigeration The effect of processing on sensory characteristics and nutritional value New trends in modified atmosphere packaging The use of fruit juices as a vehicle for probiotic microorganisms Prebiotic oligosaccharides as an alternative for dairy products Incorporating a series of case studies on the application of various technologies, the book reviews their advantages, limitations, successes, and failures. The contributors also examine the implications of food processing technologies on waste production, energy use, and resource requirements. This comprehensive survey of methods for optimizing fruit quality is an ideal resource for those in the fruit and vegetable industry looking for innovations that can improve efficiency, reduce waste, and cut costs.

Nowadays, one of the main objectives of the fruit and vegetable industry is to develop innovative novel products with high quality, safety, and optimal nutritional characteristics in order to respond, with efficiency, to increasing consumer expectations. Various unconventional technologies (e.g., pulsed electric field, pulsed light, ultrasound, high pressure, and microwave drying) have emerged and enable the processing of fruits and vegetables in a way that increases their stability while preserving their thermolabile nutrients, flavour, texture, and overall quality. Some of these technologies can also be used for waste and byproduct valorisation. The application of fast noninvasive methods for process control is of great importance for the fruit and vegetable industry. The following Special Issue "Safety, Quality, and Processing of Fruits and Vegetables" consists of 11 papers which represent a high-value contribution to the existing knowledge on safety aspects, quality evaluation, and emerging processing technologies for fruits and vegetables.

Processed Fruits and Vegetables: Potentially Adulterated Products Need to be Better Controlled, Sanitation in Some Plants Needs Improvement

Economics of food processing in the United States

Nanotechnology in the Food, Beverage and Nutraceutical Industries

Fruit Processing

Fruit and Vegetable Processing

Fresh fruit and vegetables have been identified as a significant source of pathogens and chemical contaminants. As a result, there has been a wealth of research on identifying and controlling hazards at all stages in the supply chain. Improving the safety of fresh fruit and vegetables reviews this research and its implications for food processors. Part one reviews the major hazards affecting fruit and vegetables such as pathogens and pesticide residues. Building on this foundation, Part two discusses ways of controlling these hazards through such techniques as HACCP and risk assessment. The final part of the book analyses the range of decontamination and preservation techniques available, from alternatives to hypochlorite washing systems and ozone decontamination to good practice in storage and transport. With its distinguished editor and international team of contributors, Improving the safety of fresh fruit and vegetables is a standard reference for all those involved in fruit and vegetable production and processing. Reviews recent research on controlling

hazards at all stages of the supply chain Discusses the implications of this research on food processors Discusses the implications of this research on food processors

This volume looks at new and established processing technologies for fruits and vegetables, taking into consideration the physical and biochemical properties of fruits and vegetables and their products, the challenges of the processing industry, the effect of processing on nutritional content, economic utilization of bio-wastes and byproducts, and much more. Divided into several sections, the volume covers: processing and antioxidant/enzyme profiles of fruits and vegetables (role of antioxidants and enzymes in processing, use of solar energy in processing, and techniques used in making processed products from fruits and vegetables) novel processing technologies in fruits and vegetables (ultraviolet light, pulsed light technology, hurdle technology, physical and biochemical properties) the challenges and solutions in waste reduction, negative effects of processing, and effects of processing on vitamins of fruits and vegetables

With fresh produce identified as a significant source of contaminants, Improving the Safety of Fresh Fruit and Vegetables reviews research on identifying and controlling hazards and its implications for food processors. Addressing major hazards, including pathogens and pesticide residues, the text discusses ways of controlling these hazards through techniques such as HACCP and risk assessment. It analyzes the range of decontamination and preservation processes, from alternatives to hypochlorite washing systems and ozone decontamination to good practice in storage and transport. With an international team of contributors, this is an invaluable reference for those in the fruit and vegetable industry.

Despite a worldwide increase in demand for fresh-cut fruit and vegetables, in many countries these products are prepared in uncontrolled conditions and have the potential to pose substantial risk for consumers. Correspondingly, researchers have ramped up efforts to provide

adequate technologies and practices to assure product safety while keeping n

Reconnecting Agri-Food, Technology and Society

Value-Addition in Food Products and Processing Through Enzyme Technology

Manley's Technology of Biscuits, Crackers and Cookies

Miscellaneous Publication

Technological Interventions in Processing of Fruits and Vegetables presents a wide selection of the latest concepts in the fast-changing field of processing of fruits and vegetables (FAV). It provides key information on many new and different techniques used for processing of fruits and vegetables while also exploring the pros and cons of the various methods. There is an urgent need to explore and investigate waste in the processing of fruits and vegetables and how different processing technologies can be used most effectively. This volume, in short, conveys the key concepts and role of different technology in processing of fruits and vegetables, keeping mind the special processing requirements of fruits and vegetables, waste issues, nutritional value, and consumer concerns. This volume offers a wealth of information on today's technology for fruit and vegetable processing and will be a valuable resource for industry professionals, agricultural/food processing researchers, faculty and upper-level students, and others.

Vegetables are an important article of commerce both in developed and developing economies. Many studies point to importance of vegetables in our diet. Handbook of Vegetables and Vegetable Processing serves as a reference handbook on vegetables and vegetable processing containing the latest developments and advances in this fast growing field. The book can be considered as a companion to Y. H. Hui's popular Handbook of Fruits and Fruit Processing (2006). Handbook of Vegetables and Vegetable Processing is contemporary in scope, with in-depth coverage of new interdisciplinary developments and practices in the field of vegetables emphasizing processing, preservation, packaging, and nutrition and food safety. Coverage includes chapters on the biology, horticultural biochemistry, microbiology, nutrient and bioactive properties of vegetables and their significant commercialization by the food industry worldwide. Full chapters are devoted to major vegetables describing aspects ranging from chemistry to processing and preservation. World-renowned editors and authors have contributed to this essential handbook on vegetables and their production, technology, storage, processing, packaging, safety and commercial product development. Special Features: Coverage includes biology and classification, physiology, biochemistry, flavor and sensory properties, microbial safety and HACCP principles, nutrient and bioactive properties In-depth descriptions of key processes including, minimal processing, freezing, pasteurization and aseptic processing, fermentation, drying, packaging, and application of new technologies Entire chapters devoted to important aspects of over 20 major commercial vegetables including avocado, table olives and textured vegetable proteins Unparalleled expertise on important topics from more than 50 respected authors

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.

Economics of Food Processing in the United States aims to provide an economic overview of the food processing industries in the United States; to explore the firm-level implications of social, economic, technological, and institutional forces for selected food processing industries; and to uncover some of the implications for consumers, raw product producers, and the national economy of the major trends observed in food industries. The book begins by evaluating the major forces shaping demand, supply, prices, and trade in processed foods. It then considers major trends in technical processes; major forces in marketing, distribution, and structure; and major trends in regulation. The next few chapters explore these trends for five specific food processing industries, which represent major types of products processed: fruits and vegetables, meat, milk, grain and soybeans, and wine. After the specific industries have been examined, the final two chapters treat these industries in the context of the national and international economy. Students preparing for careers, researchers, and industry participants who study these firms and industries and the various approaches to solving their economic and management problems will benefit from the information in this volume and from its approach to presenting the dynamics of the food processing industries.

From Farm to Fork

Technology, Physiology, and Safety

Postharvest Biology and Technology of Tropical and Subtropical Fruits

List of Chemical Compounds Authorized for Use Under USDA Meat, Poultry, Rabbit, and Egg Products Inspection Programs

Handbook of Vegetable Preservation and Processing

Handbook of Vegetables and Vegetable Processing, Second Edition is the most comprehensive guide on vegetable technology for processors, producers, and users of vegetables in food manufacturing.This complete handbook contains 42 chapters across two volumes, contributed by field experts from across the world. It provides contemporary information that brings together current knowledge and practices in the value-chain of vegetables from production through consumption. The book is unique in the sense that it includes coverage of production and postharvest technologies, innovative processing technologies, packaging, and quality management. Handbook of Vegetables and Vegetable Processing, Second Edition covers recent developments in the areas of vegetable breeding and production, postharvest physiology and storage, packaging and shelf life extension, and traditional and novel processing technologies (high-pressure processing, pulse-electric field, membrane separation, and ohmic heating). It also offers in-depth coverage of processing, packaging, and the nutritional quality of vegetables as well as information on a broader spectrum of vegetable production and processing science and technology. Coverage includes biology and classification, physiology, biochemistry, flavor and sensory properties, microbial safety and HACCP principles, nutrient and bioactive properties (in-depth descriptions of key processes including, minimal processing, freezing, pasteurization and aseptic processing, fermentation, drying, packaging, and application of new technologies Entire chapters devoted to important aspects of over 20 major commercial vegetables including avocado, table olives, and textured vegetable proteins This important book will appeal to anyone studying or involved in food technology, food science, food packaging, applied nutrition, biosystems and agricultural engineering, biotechnology, horticulture, food biochemistry, plant biology, and postharvest physiology.

Because they meet the needs of today's consumers, fresh-cut plant products are currently one of the hottest commodities in the food market of industrialized countries. However, fresh-cut produce deteriorates faster than the correspondent intact produce. The main purpose of Fresh-Cut Fruits and Vegetables: Technology, Physiology, and Safety is to provide helpful guidelines to the industry for minimizing deterioration, keeping the overall quality, and lengthening the shelf life. It provides an integrated and interdisciplinary approach for accomplishing the challenges, where raw materials, handling, minimal processing, packaging, commercial distribution, and retail sale must be well managed. It covers technology, physiology, quality, and safety of fresh-cut fruits and vegetables. In this book, the chapters follow a logical sequence analyzing most of the important factors affecting the main characteristics of fresh-cut horticultural products. The most relevant technologies to prevent deterioration and improve final overall quality of fresh-cut commodities are described in detail. This book covers the basics of the subject from quality preservation, nutritional losses, physiology, and safety to industry-oriented advancements in sanitization, coatings, and packaging. It examines such novel preservation technologies as edible coatings, antimicrobial coatings, natural antimicrobials, gum arabic coatings, and pulsed light treatments. Minimal processing design and industrial equipment are also reviewed. With its international team of contributors, this book will be an essential reference work both for professionals involved in the postharvest handling of fresh-cut and minimally processed fruits and vegetables and for academic and researchers working in the area.

The food industry is now entering a transition age, as scientific advancements and technological innovations restructure what people eat and how people think about food. Food Tech Transitions provides a critical analysis of food technology and its impact, including the disruption potential of production and consumption logic, nutrition patterns, agronomic practices, and the human, environmental and animal ethics that are associated with technological change. This book is designed to integrate knowledge about food technology within the social sciences and a wider social perspective. Starting with an overview of the technological and ecological changes currently shaping the food industry and society at large, authors tackle recent advancements in food processing, preserving, distributing and meal creation through the lens of wider social issues. Section 1 provides an overview of the changes in the industry and its (often uneven) advancements, as well as related social, ecological and political issues. Section 2 addresses the more subtle sociological questions around production and consumption through case-studies. Section 3 embraces a more agronomic and wider agricultural perspective, questioning the suitability and adaptation of existing plants and resources for novel food technologies. Section 4 investigates nutrition-related issues stemming from altered dietary patterns. Finally, Section 5 addresses ethical questions related to food technology and the sustainability imperative in its tripartite form (social, environmental and economic). The editors have designed the book as an interdisciplinary tool for academics and policymakers working in the food sciences and agronomy, as well as other related disciplines.

Fruits are botanically diverse, perishable, seasonal andpredominantly regional in production. They come in many varieties.shapes and size, colors, flavors and textures and are an importantpart of a healthy diet and the global economy. Besides vitamins,minerals, fibers and other nutrients, fruits contain phenoliccompounds that have pharmacological potential. Consumed as a partof a regular diet, these naturally occurring plant constituents arebelieved to provide a wide range of physiological benefits throughtheir antioxidant, anti-allergic, anti-carcinogenic, andanti-inflammatory properties. Handbook of Fruits and Fruit Processing distills thelatest developments and research efforts in this field that aimedat improving production methods, post-harvest storage andprocessing, safety, quality and developing new processes andproducts. This revised and updated second edition expands andimproves upon the coverage of the original book. Some highlightsinclude chapters on the physiology and classification of fruits,horticultural biochemistry, microbiology and food safety (includingHACCP, safety and the regulation of fruits in the global market),sensory and flavor characteristics, nutrition, naturally presentbioactive phenolics, postharvest physiology, storage,transportation and packaging, processing and preservationtechnologies. Information on the major fruits includes tropical andsuper fruits, frozen fruits, canned fruit, jelly, jam andpreserves, fruit juices, dried fruits and wines. The 35 chaptersare organized into five parts: Part I: Fruit physiology, biochemistry, microbiology, nutritionand health Part II: Postharvest handling and preservation of fruits Part III: Product manufacturing and packaging Part IV: Processing plant, waste management, safety andregulations Part V: Production, quality and processing aspects ofmajor fruits and fruit products Each chapter has been contributed by professionals from aroundthe globe representing academia, government institutions andindustry. The book is designed to be a valuable source andreference book for scientists, product developers, students and allprofessionals with an interest in this field.

Food Processing Handbook

Promoting safe and adequate fruit and vegetable consumption to improve health

Fresh-Cut Fruits and Vegetables

Food Tech Transitions

Minimally Processed Refrigerated Fruits & Vegetables

Value Addition in Food Products and Processing using Enzyme Technology offers an updated review regarding the potential impact of new enzymes and enzyme technology on the food sector. The book brings together novel sources and technologies regarding enzymes in value added food development, food production, food processing, food preservation, food engineering and food biotechnology. It will be extremely useful for different types of readers, including food scientists, academic and food biotechnologists, but will also be ideal for students studying food-related courses. This book includes concise and up-to-date research information from multiple independent scientific papers from around the world. This is a essential, multidisciplinary text for research and development professionals, research scientists, and academics in food, biotechnology, and agriculture industries. It addresses safety issues and includes the sources, screening, immobilization and application of food-grade enzymes in food. Presents research data from experts Includes emerging industry topics such as baby food and food safety Offers methodologies of enzymes in diagnostics for food testing and analysis Emphasizes enzyme technology through a microbial biotechnological lens Includes bakery and confectionery products, meat and poultry products, vegetables, food ingredients, functional foods, flavors and food additives and seafood

Fresh-Cut Fruits and Vegetables: Technologies and Mechanisms for Safety Control covers conventional and emerging technologies in one single source to help industry professionals maintain and enhance nutritional and sensorial quality of fresh-cut fruits and vegetables from a quality and safety perspective. The book provides available literature on different approaches used in fresh-cut processing to ensure safety and quality. It discusses techniques with the aim of preserving quality and safety in sometimes unpredictable environments. Sanitizers, antioxidants, texturizers, natural additives, fortificants, probiotics, edible coatings, active and intelligent packaging are all presented. Both advantages and potential consequences are included to ensure microbial safety, shelf-life stability and preservation of organoleptic and nutritional quality. Industry researchers, professionals and students will all find this resource essential to understand the feasibility and operability of these techniques in modern-day processing to make informed choices. Provides current information on microbial infection, quality preservation, and technology with in-depth discussions on safety mechanisms Presents ways to avoid residue avoidance in packaging and preservation Includes quality issues of microbial degradation and presents solutions for pre-harvest management

This new volume shares a plethora of valuable information on the recent advances in packaging and storage technologies used for quality preservation of fresh fruits and vegetables. This book, with chapters from eminent researchers in the field, covers several essential aspects of packaging and storage methods and techniques generally used in fruit and vegetables. Important considerations on selection and characteristics of packaging materials, new packaging methods, storage hygiene and sanitation issues along with recent trends in storage technology are discussed in this volume. Key features: Provides an inclusive overview of fruit and vegetable requirements and available packaging materials and storage systems Imparts an understanding of the fundamentals of the impact of packaging on the evolution of quality and safety of fruits and vegetables Includes examples of mathematical modeling and mechanical and engineering properties of packaging materials Provides an in-depth discussion of innovative packaging and storage technologies, such as MA/CA packaging, active packaging, intelligent packaging, eco-friendly materials, etc., applied to fruit and vegetables Packaging and Storage of Fruits and Vegetables: Emerging Trends will be useful for graduate and postgraduate students and teaching professionals of horticultural science, food science and technology, packaging technology etc. It will also provide valuable scientific information to the academic scientific research community as well as to the packaging and storage industries for preservation of quality characteristics of fruits and vegetables. The professional community involved in handling processing and commercialization of horticultural crops will benefit as well.

Nanotechnology has the potential to impact on food processing significantly. This important book summarises current research in this area and provides an overview of both current and possible future applications of nanotechnologies in the food industry. Issues such as safety and regulation are also addressed. After an introductory overview, the first part discusses general issues such as risk assessment, the regulatory framework, detection and characterisation of nanoparticles in food. Part two summarises the wide range of applications of nanotechnology in food processing, including nanoscale nutraceutical delivery systems, nanoemulsions and colloids, nanoscale rapid detection devices for contaminants, nanofiltration and nanocomposite packaging materials. With its distinguished editor and international team of contributors, Nanotechnology in the food, beverage and nutraceutical industries is a valuable reference work for both food processors and those researching this expanding field. Discusses issues such as risk assessment, regulatory framework, detection and characterisation of nanoparticles in food Summarises the wide range of applications of nanotechnology in food processing, including nutraceutical delivery and packaging materials Written by a distinguished team of international contributors, this book is an invaluable reference for industry professionals and academics alike

Handbook of Food Preservation

A Directory of Projects Related to Agriculture

Improving the Export Distribution System for Fresh Fruits and Vegetables

Controlled Atmosphere Storage of Fruit and Vegetables, 3rd Edition

Improving and Reforming Our Nation's Surface Transportation Programs

Fruits & vegetables are an important nutritional requirement of human beings as these foods not only meet the quantitative needs to some extent but also supply vitamins & minerals which improve the quality of the diet & maintain health. Fruit, vegetables & oil seeds processing is one of the pillars of the food & edible oil industry. India is the second largest producer of both fruits and vegetables. Fruits and vegetables are the reservoir of vital nutrients. Being highly perishable, 20 to 40% of the total production of fruits and vegetables goes waste from the time of harvesting till they reach the consumers. It is, therefore, necessary to make them available for consumption throughout the year in processed or preserved form and to save the sizeable amount of losses. At present, about 2% of the total produce is processed in India mainly for domestic consumption. Fruits and vegetables have great potential for value addition and diversification to give a boost to food industry, create employment opportunities and give better returns to the farmers. Oil seeds also play an important role in the food sector & daily life. Edible oils constitute an important component of Indian households. Domestic edible oil consumption in India is increasing. Self sufficiency in edible oils today stands at in recent years, availabilities of non conventional oil, rice bran oil, soybean oil, palmolein oil and cottonseed have increased. Oils are essential components of all plants. However, commercial oil production facilities only utilize plants that accumulate large amounts of oil and are readily available In order to improve the nutritional status of the people & also to exploit the export potential of processed products there is need to increase the productivity of processed food in the country. Currently, India accounts for 7.0% of world oilseeds output; 7.0% of world oil meal production; 6.0% of world oil meal export; 6.0% of world veg. oil production; 14% of world veg. oil import; and 10 % of the world edible oil consumption. Some of the fundamentals of the book are preservation of pineapple, mango and papaya chunks by hurdle technology, effect of boiling on beta-carotene content of forest green leafy vegetables consumed by tribals of south India, process development for production of pure apple juice in natural colour of choice, physical refining of rice bran and soybean oils, anti nutrients and protein digestibility of fababean and ricebean as affected by soaking, dehulling and germination, quality changes in banana (musa acuminata) wines on adding pectolase and passion fruit, essential oil composition of fresh and osmotically dehydrated galgal peels, development of cold grinding process, packaging and storage of cumin powder, bakery products and confections, etc. This book deals completely on the basic principles & methodology of fruits, vegetables, corn & oilseed processing & its preservation. This will be very resourceful to readers especially to technocrats, engineers, upcoming entrepreneurs, scientists, food technologists etc.

Fruit and Vegetable ProcessingImproving QualityElsevier

High pressure processing is a fast-growing food processing technology and opens the door to nearly-fresh products that retain their sensorial and nutritional qualities. High Pressure Processing of Fruit and Vegetable Products reviews and summarizes the latest advances in novel high-pressure processing techniques for preserving fruits, fruit juices, and their mixtures. It contains basic information on the relation of high-process treatment parameters with the safety and quality of fruit and vegetable juices/products. The book focuses on product quality parameters, nutritional value, bio-active health components, and microbial safety and stability. The main aim of this book is to summarize the advances in the utilization of modern high pressure pasteurization (HPP) treatment to preserve and stabilize fruit and vegetable products. HPP technology is related to the product quality parameters, the content of nutritional and health active components, and the microbial safety and subsequent shelf life. One chapter of this book is devoted to industrial equipment available; other chapters deal with examples of commercial fruit and vegetable products. Another chapter of this book is dedicated to packaging, as packaging of food before HPP is mandatory in this technology. The regulatory aspects for high-pressure treated fruit and vegetable products in different regions of the world (Europe, the United States, Asia, and Australia) are also an important topic dealt within one chapter of the book. The effects of HPP technology on the quality of fruit and vegetable products, namely nutrients and stability, health active components, and sensory aspects, are reviewed in a trio of chapters.

Consumers are advised to increase fruit and vegetable consumption, but the health effects of increased intake are not fully understood. This important collection brings together information on the health-promoting properties of fruit and vegetables. Introductory chapters provide an overview of fruit and vegetable bioactives and consumer attitudes towards fruit and vegetables. Part two discusses the health effects of fruit and vegetables in relation to specific diseases, including cancer, cardiovascular disease, diabetes, obesity and neurodegenerative diseases. The focus in Part three is on understanding fruit and vegetable phytochemicals. Chapters cover physiological and ecological functions and biosynthesis of health-promoting compounds in fruit and vegetables, rapid analysis of phytochemicals in fruit and vegetables and clinical evidence for biological activity of fruit and vegetable phytochemicals. Part four chapters review the effect of pre- and post-harvest technologies on the health-promoting properties of fruit and vegetables. Topics covered include traditional breeding and modern processing techniques and their effect on fruit and vegetable phytochemicals; genetic manipulation of vegetable crops to alleviate diet-related diseases; agronomy and the nutritional quality of fruit; storage and handling of fruit and vegetables for optimal health-related quality and postharvest enhancement of bioactive compounds in fresh produce using abiotic stresses. The final chapters in Part five look at the nutritional quality of particular fruit and vegetable products, such as fresh-cut fruit and vegetables and organic fruit and vegetables. Improving the health-promoting properties of fruit and vegetable products is a valuable reference for those working in the fresh and processed fruit and vegetable sector of the food industry. Provides an overview of fruit and vegetable bioactives Discusses the health effects of fruit and vegetables in relation to specific diseases Reviews the impact of agronomy, post-harvest treatments and

processing on the nutritional quality of fresh fruit and vegetables

Technological Interventions in the Processing of Fruits and Vegetables

High Pressure Processing of Fruit and Vegetable Products

Solar Energy and Nonfossil Fuel Research

The Complete Book on Fruits, Vegetables and Food Processing

Recent Advances and Future Prospects

Consumer acceptance of food is highly dependent on flavour. This important collection reviews the chemical basis of fruit and vegetable flavour and current methods for improving the flavour of fruit and vegetable products. Opening chapters outline the economic importance of flavour in fruit and vegetables. Part one investigates the formation of fruit and vegetable flavour and how it deteriorates after harvest. Part three contains chapters on flavour management during horticultural and postharvest operations. Chapters discuss the possibilities and limitations for flavour improvement by selection and breeding, and the role of maturity for improved fruit and vegetable flavour. Part four concludes the volume with a discussion of emerging trends in flavour manipulation, especially how knowledge of the genetic background of quality attributes can be applied to flavour improvement. With its team of experienced international contributors Fruit and vegetable flavour: recent advances and future prospects is an essential reference for all those working in the food industry concerned with improving flavour in fruit and vegetables. Reviews the chemical basis of fruit and vegetable flavour and current methods for improvement Discusses the possibilities and limitations for flavour enhancement by selection and breeding Illustrates how knowledge of the genetic background of quality attributes can be applied to flavour improvement

Improving Quality

Fruits, Vegetables, Corn and Oilseeds Processing Handbook

Handbook of Vegetables and Vegetable Processing

Technologies and Mechanisms for Safety Control

Fruit and Vegetable Flavour