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Fruit Fly Species Infesting Guava and Their Molecular Characterization Biorefinery Production Technologies for Chemicals and Energy *Biotechnology of Fruit and Nut Crops, 2nd Edition* **Conservation and Utilization of Horticultural Genetic Resources Guava Handbook of Fruit Wastes and By-Products** *OMICS Applications in Crop Science Osmotic Dehydration of Guava (Psidium Guajava L.) Transport Phenomena and Drying of Solids and Particulate Materials* Mediterranean Fruits Bio-wastes Nuts and Seeds in Health and Disease Prevention **Charting the Sustainable Future of ASEAN in Science and Technology Third Regional Workshop on Tropical Fruits Protecting Our Crops - Approaches for Plant Parasitic Nematode Control** *Proceedings of the Second International Symposium on Guava and Other Myrtaceae* **Guava Intelligent Computing, Networking, and Informatics An Economic Analysis of the Market for Frozen Guava Nectar Base** Antioxidants **Handbook of Fruits and Fruit Processing Produce Degradation** Handbook of Functional Beverages and Human Health **Nutritional Composition of Fruit Cultivars United States Plant Patents Step Wise Protocols for Somatic Embryogenesis of Important Woody Plants Tropical Fruit Processing** *Guava Pruning and Its Physiology* **Antioxidants in Fruits: Properties and Health Benefits Edible Medicinal And Non Medicinal Plants Tropical Fruits-- from Cultivation to Consumption and Health Benefits** Recent Trends in Horticultural Biotechnology **Science and Culture Advances in Food Analysis** *Dense Phase Carbon Dioxide* **Getting Started with Google Guava** Fruit and Vegetable Phytochemicals *Process-Induced Chemical Changes in Food* **Integrated Management of Fruit Flies in Mango & Guava in Central Sudan Natural Polymers, Biopolymers, Biomaterials, and Their Composites, Blends, and IPNs** *Flavor, Fragrance, and Odor Analysis*

Antioxidants in Fruits: Properties and Health Benefits Jul 02 2020 This book provides a comprehensive review of the antioxidant value of widely consumed fruits. Each chapter covers the botanical description, nutritional & health properties of these popular fruits. Fruits are one of the most important indicators of dietary quality and offer protective effects against several chronic diseases such as cardiovascular diseases, obesity, and various types of cancer. In order to effectively promote fruit consumption, it is necessary to know and understand the components of fruits. In addition to underscoring the importance of fruit consumption's effects on human diet, the book addresses the characterization of the chemical compounds that are responsible for the antioxidant proprieties of various fruits. Given its scope, the book will be of interest to graduate and post-graduate students, research scholars, academics, pomologists and agricultural scientists alike. Those working in various fruit processing industries and other horticultural departments will also find the comprehensive information relevant to their work.

United States Plant Patents Nov 06 2020

Antioxidants Apr 11 2021 Antioxidants are substances that can prevent or slow damage to living cells caused by free radicals, which are unstable molecules the body produces as a reaction to environmental and other pressures. Sometimes called "free-radical scavengers," free radicals can cause mutation in different biological compounds such as protein, nucleic acids, and lipids, which lead to various diseases (cancer, cardiovascular disease, aging, etc.). Healthy foods are considered a main source of antioxidant compounds and from the beginning of a person's life, a strong relationship is seen between antioxidant compounds and the prevention of certain diseases, such as types of inflammations, cardiovascular diseases, and different kinds of cancers. It is thus of great importance that new data relating to antioxidants and their biological activity be collected and that antioxidant modes of action be illustrated.Experts from around the world contributed to the current book, discussing antioxidant sources, modes of action, and their relation to human diseases. Twenty-five chapters are presented in two sections: Antioxidants: Sources and Modes of Action and Antioxidants Compounds and Diseases.

Transport Phenomena and Drying of Solids and Particulate Materials Feb 21 2022 The purpose of this book, Transport Phenomena and Drying of Solids and Particulate Materials, is to provide a collection of recent contributions in the field of heat and mass transfer, transport phenomena, drying and wetting of solids and particulate materials. The main benefit of the book is that it discusses some of the most important topics related to the heat and mass transfer in solids and particulate materials. It includes a set of new developments in the field of basic and applied research work on the physical and chemical aspects of heat and mass transfer phenomena, drying and wetting processes, namely, innovations and trends in drying science and technology, drying mechanism and theory, equipment, advanced modelling, complex simulation and experimentation. At the same time, these topics will be going to the encounter of a variety of scientific and engineering disciplines. The book is divided in several chapters that intend to be a resume of the current state of knowledge for benefit of professional colleagues.

Conservation and Utilization of Horticultural Genetic Resources Jul 26 2022 The conservation of crop genetic resources is one of the important elements in efforts to sustainably increase agricultural production in low-income countries, and to guarantee long-term food security, especially for the low-income population groups in these countries. Horticultural crops, as high-value crops, have an important role to play in revitalizing rural economies and can add significantly to national economies. Moreover, horticulture provides more than twice the number of jobs compared to traditional cereal crop production, and the shifting of conventional agriculture towards high-value horticulture has increased employment opportunities in developing countries. To exploit this potential, researchers need a vast array of horticultural genetic resources and information on new traits. Horticultural crops, which are only a part of PGRFA (Plant Genetic Resources for Food and Agriculture), are characterized by a wide and varied range of species. In fact, there are five major horticultural crop groups: fruit and nut crops, vegetables, food legumes, roots and tubers, and lastly the ornamental and medicinal group. In this context, the present book provides a comprehensive overview of the current state of conservation and utilization of horticultural genetic resources, addressing contemporary approaches to conservation in connection with different technologies, including biotechnological approaches as practised in India and in some cases, globally. It includes a brief chapter on the unique nature of horticultural genetic resources, providing a rationale for viewing them as being distinct from field crop genetic resources. Subsequent chapters share insights on protocols for the conservation of selected horticultural crops ex situ, and focus on the increased need to complement these efforts with in situ conservation approaches. Geospatial tools are also briefly described, emphasizing their utility with regard to mapping and managing resources. The book also explores the wild gene pool in horticulture crops; discusses legal aspects related to horticultural genetic resources and biotechnological aspects; and describes the key aspects of sustainable management and replenishment. Given its scope, the book offers a valuable resource for all horticulturists, graduate students, researchers, policymakers, conservationists, and NGOs engaged in horticulture in particular and biodiversity in general.

Osmotic Dehydration of Guava (Psidium Guajava L.) Mar 22 2022

Tropical Fruits-- from Cultivation to Consumption and Health Benefits Apr 30 2020 Food or medicine? That is the question related to our everyday lives.. Fruits are an important part of daily nutritional habits and can be recognized as a supplier of vitamins, minerals, fibers, antioxidants, etc. On the other hand, however, they can influence our GUT microflora and can have a direct and indirect impact on our health. Our ancestors had no knowledge of plant taxonomy, enzymes, antioxidants, or microbiology; they even knew nothing about the existence of the microbes and all these molecules. However, they had one very powerful piece of knowledge, and that was knowledge of traditional know-how. Based on personal experience and the knowledge transferred from parents to children throughout the centuries, they knew about the beneficial properties of fruits, vegetables, and medical plants. The longest part of this history was

based on empirical knowledge gained by experience without former knowledge of either mechanisms or scientific basis. If we look back in history, we can find the use of various fruits, vegetables and medical plants in the treatment of numerous diseases; they appreciated for their nutritional value or used in everyday domestic processes. Based on empiric experience, a high number of fruits have been used in traditional medicine. Empiric knowledge, frequently transferred from one generation to the next, was the only basis for preparation and application of these products in the past. Mangos (Mangifera indica L.) and guavas (Psidium guajava) have been widely acknowledged as nutritionally valuable fruits that act excellent sources of vitamins and minerals. They have been cultivated in tropical and subtropical parts of the world. Many research investigations reveal that both plants exhibit numerous medicinal properties. They have been used to treat many ailments by acting as antioxidants, antidiabetics, anti-inflammatory agents, anti-diarrhea supplements, aiding with hypolipidaemia, and anti-cancer promoters. Mangos have been found to be widely used in food, cosmetic and pharmaceutical industries, while guavas are processed mainly into food products. However, their physical, chemical, and sensory attributes of undergo changes upon the ripening process. Thus, different methods of storage and packaging are developed to prolong the shelf life and maintain the quality of these fruits. From the viewpoint of the twenty-first century scientist, we have sufficient knowledge to address various beneficial properties to mangos and guavas. Nowadays, the application of different parts of the mango and guava plants could be seen in the preparation of numerous bioactive molecules. These molecules include enzymes, antibacterial proteins, antioxidants, and various extracts applicable in modern medicine, food industry, etc. In this book, we have tried to collect materials covering some aspects from characterization and origin of the mango and guava plants into the taxonomical position of the plants to summarize information about the application of the fruits and other parts of their plants.

Guava Pruning and Its Physiology Aug 03 2020 Flowering in Guava occurs at three distinct seasons namely spring, rainy and autumn. This experiment attempts to study the impacts of time and level of pruning on growth, flowering, leaf tissue analysis and yield of guava and find the best interaction to induce the plants to yield in winter season which is superior in quality with good market demand. Findings of the study reveals that time of pruning interacted significantly with level of pruning in respect to yield. Results help to conclude that to reduce rainy season crop and to give a good yield with high quality fruits in winter season, the plants are pruned in 20 cm pruning level not later than first week of May. As leaf tissue is concerned, study suggests that pruning time could not influence the NPK content of leaf significantly but level of pruning had marked effect on its content. This book helps to understand the tree management strategy to increase shoot numbers and induce off-season flowering and also give some insights on how pruning brings balance between vegetative and reproductive function of the plant.

Handbook of Fruit Wastes and By-Products May 24 2022 Processing of fruits produces large volumes of wastes and these wastes can create pollution problems and also result in loss of valuable biomass and nutrients. The Handbook of Fruit Wastes and By-Products: Chemistry, Processing Technology, and Utilization deals with the various techniques and methods involved in processing of fruit by-products. Although there are some general books on by-products of food processing industry but they are limited in context to the by-products of some particular fruits. This is the first book devoted to fruit processing by-products of wide range of important fruits including tropical, subtropical and temperate fruits; and their possible utilization in food and non-food industries. Key Features Discusses the valorization of fruit processing by-products Covers the role of the by-products as prebiotics and dietary fibers Presents extraction techniques of bioactive compounds from fruit wastes This book provides in-depth information about the fruit processing by-products, their nutritional composition, biochemistry, processing technology of by-products and the utilization of by-products into various food applications. This book also offers comprehensive coverage on the role of the fruit by-products as prebiotics and dietary fibers, their potential as the source of bioactive ingredients and their utilization in the development of novel functional foods. It also includes various novel technologies useful in extraction and evaluation of the functional components from these fruit processing by-products. The book addresses how the proper utilization of fruit processing by-products would not only emerge as a source of extra profit to the fruit processing industry but also will help in lessen the environment pollution due to these fruit processing by-products.

OMICS Applications in Crop Science Apr 23 2022 Merging topical data from recently published review and research articles, as well as the knowledge and insight of industry experts, Omics Applications in Crop Science delves into plant science, and various technologies that use omics in agriculture. This book concentrates on crop breeding and environmental applications, and examines the applicatio

Fruit and Vegetable Phytochemicals Oct 25 2019 Now in two volumes and containing more than seventy chapters, the second edition of Fruit and Vegetable Phytochemicals: Chemistry, Nutritional Value and Stability has been greatly revised and expanded. Written by hundreds of experts from across the world, the chapters cover diverse aspects of chemistry and biological functions, the influence of postharvest technologies, analysis methods and important phytochemicals in more than thirty fruits and vegetables. Providing readers with a comprehensive and cutting-edge description of the metabolism and molecular mechanisms associated with the beneficial effects of phytochemicals for human health, this is the perfect resource not only for students and teachers but also researchers, physicians and the public in general.

Produce Degradation Feb 09 2021 Produce Degradation is the first book to focus on the processes that result in produce quality deterioration and their prevention. It addresses the mechanism of reactions that affect produce quality under conditions from the farm to the table. It also reviews the degradative changes and conditions that favor these processes, such as the biochemistry, microbiology, physiology, polymer and cellular science, and genetics. Written by experts in the field, topics include the mechanisms of nutrient loss, pigment degradation, cell tissue and membrane degradation, the genetic basis of product stability, the role of water and moisture in produce quality, and prevention during transport.

Nuts and Seeds in Health and Disease Prevention Dec 19 2021 The use of nuts and seeds to improve human nutritional status has proven successful for a variety of conditions including in the treatment of high cholesterol, reduced risk of Type-2 Diabetes, and weight control. Nuts and Seeds in Health and Disease Prevention is a complete guide to the health benefits of nuts and seeds. This book is the only single-source scientific reference to explore the specific factors that contribute to these potential health benefits, as well as discussing how to maximize those potential benefits. Organized by seed-type with detailed information on the specific health benefits of each to provide an easy-access reference for identifying treatment options Insights into health benefits will assist in development of symptom-specific functional foods Includes photographs for visual identification and confirmation Indexed alphabetically by nut/seed with a second index by condition or disease

Dense Phase Carbon Dioxide Dec 27 2019 Dense phase carbon dioxide (DPCD) is a non-thermal method forfood and pharmaceutical processing that can ensure safe productswith minimal nutrient loss and better preserved quality attributes.Its application is quite different than, for example, supercriticalextraction with CO 2 where the typical solubility of materials inCO 2 is in the order of 1% and therefore requires large volumes ofCO 2. In contrast, processing with DPCD requires much less CO 2(between 5 to 8% CO 2 by weight) and the pressures used are atleast one order of magnitude less than those typically used inultra high pressure (UHP) processing. There is no noticeabletemperature increase due to pressurization, and typical processtemperatures are around 40°C. DPCD temporarily reduces the pH of liquid foods and becauseoxygen is removed from the environment, and because the temperatureis not high during the short process time (typically about fiveminutes in continuous systems), nutrients, antioxidant activity,and vitamins are much better preserved than with thermaltreatments. In pharmaceutical applications, DPCD facilitates theproduction of micronized powders of controlled particle size anddistribution. Although the capital and operating costs are higherthan that of thermal treatments, they are much lower than othernon-thermal technology operations. This book is the first to bring together the significant amountof research into DPCD and highlight its effectiveness againstmicroorganisms and enzymes as well as its potential in particleengineering. It is directed at food and pharmaceutical industryscientists and technologists working with DPCD and othertraditional or non-thermal technologies that can potentially beused in conjunction with DPCD. It will also be of interest topackaging specialists and regulatory agencies.

Flavor, Fragrance, and Odor Analysis Jun 20 2019 There are many advantages to stir bar sorptive extraction (SBSE) for isolating and concentrating flavor-active chemicals from foods, including its simplicity and wide application appeal. Written from a practical, problem-solving perspective, the second edition of Flavor, Fragrance, and Odor Analysis highlights this powerful technique and emphasizes

Getting Started with Google Guava Nov 25 2019 This is a short, practical guide, with lots of examples to help you learn Google Guava.There is no minimum level of experience required. There is something for everyone who works with Java, from the beginner to the expert programmer.
Step Wise Protocols for Somatic Embryogenesis of Important Woody Plants Oct 05 2020 World population is increasing at an alarming rate and this has resulted in increasing tremendously the demand for tree products such as wood for construction materials, fuel and paper, fruits, oils and medicines etc. This has put immense pressure on the world's supplies of trees and raw material to industry and will continue to do so as long as human population continues to grow. Also, the quality of human diet, especially nutritional components, is adversely affected due to limited genetic improvement of most of fruit trees. Thus there is an immediate need to increase productivity of trees. Improvement has been made through conventional breeding methods, however, conventional breeding is very slow due to long life cycle of trees. A basic strategy in tree improvement is to capture genetic gain through clonal propagation. Clonal propagation via organogenesis is being used for the production of selected elite individual trees. However, the methods are labour intensive, costly, and produce low volumes. Genetic gain can now be captured through somatic embryogenesis. Formation of embryos from somatic cells by a process resembling zygotic embryogenesis is one of the most important features of plants. In 1958, Reinert in Germany and Steward in USA independently reported somatic embryogenesis in carrot cultures. Since then, tremendous progress in somatic embryogenesis of woody and non-woody plants has taken place. It offers a potentially large-scale propagation system for superior clones.
Proceedings of the Second International Symposium on Guava and Other Myrtaceae Aug 15 2021
Integrated Management of Fruit Flies in Mango & Guava in Central Sudan Aug 23 2019 The fruit flies of mango and guava are the main constrain of production, marketing and exports of these lovable desserts. In Sudan the aggravation of this problem in the last decade pushed the Sudan Government to consider these flies as national pests to which the sharp decline in exports referred. However, this work geared a variety of preharvest and postharvest treatments to combat these notorious insects. These treatments include spraying of soft insecticide cypemethrin and entomopathogenic funi, the latter also sprayed in guava besides a neem seed powder suspension. Moreover, the postharvest treatments tested include hot water, hot dry air, hot humid air, gamma irradiation, some fruit characteristics, harvest time and storage as well. All these treatments significantly reduce the fly infestation and only few can completely disinfest the fruits. However, some other studies are also included in this book which drew and drawing a lot of attention of the experts worldwide.
Handbook of Functional Beverages and Human Health Jan 08 2021 Handbook of Functional Beverages and Human Health provides potential applications and new developments in functional beverages, nutraceuticals, and health foods. In addition to serving as a reference manual, it summarizes the current state of knowledge in key research areas and contains novel ideas for future research and development. Additionally,
Nutritional Composition of Fruit Cultivars Dec 07 2020 Nutritional Composition of Fruit Cultivars provides readers with the latest information on the health related properties of foods, making the documentation of the nutritive value of historical cultivars especially urgent, especially before they are lost and can't be effectively compared to modern cultivars. Because there is considerable diversity and a substantial body of the compositional studies directed towards commercial varieties, this information is useful for identifying traits and features that may be transposed from one variety to another. In addition, compositional and sensory features may also be used for commercialization and to characterize adulteration. Detailed characterization of cultivars can be used to identify "super-foods". Alternatively, unmasked historical cultivars may be the focus of reinvigorated commercial practices. Each chapter in this book has sections on the botanical aspects, the composition of traditional or ancient cultivars, the composition of modern cultivars, a focus on areas of research, the specialty of the communicating author of each chapter, and summary points. Presents the botanical aspects and composition of both traditional and modern plants, including in-depth insight into current research, and overall summary points for each fruit for consistent comparison and ease of reference Provides important information in the consideration of preservation, transference, or re-introduction of historical/traditional cultivars into current crop science Provides details on compositional and sensory parameters, from aroma and taste to micro- and macronutrients Includes data on nutraceuticals and novel components that have proven to impact on, or be important in, food quality, storage, processing, storage, and marketing
Biotechnology of Fruit and Nut Crops, 2nd Edition Aug 27 2022 This book covers the biotechnology of all the major fruit and nut species. Since the very successful first edition of this book in 2004, there has been rapid progress for many fruit and nut species in cell culture, genomics and genetic transformation, especially for citrus and papaya. This book covers both these cutting-edge technologies and regeneration pathways, protoplast culture, in vitro mutagenesis, ploidy manipulation techniques that have been applied to a wider range of species. Three crop species, Diospyros kaki (persimmon), Punica granatum (pomegranate) and Eriobotrya japonica (loquat) are included for the first time. The chapters are organized by plant family to make it easier to make comparisons and exploitation of work with related species. Each chapter discusses the plant family and the related wild species for 38 crop species, and has colour illustrations. It is essential for scientists and post graduate students who are engaged in the improvement of fruit, nut and plantation crops.
Guava Jul 14 2021 Guava (Psidium guajava L.), which is considered a native to southern Mexico into Central America extends throughout the South America, Europa, Africa and Asia. It is widely cultivated in tropical and subtropical regions and is becoming increasingly popular worldwide. In this book, Chapter One reviews guava's productive aspects, quality and health benefits. Chapter Two focuses on the guava by-products' composition which govern the functional properties. Chapter Three addresses the chemical composition, antioxidant activity and food applications of guava. Chapter Four presents an overview on fundamental and applied aspects related to production of aroma compounds in guava fruit.
Natural Polymers, Biopolymers, Biomaterials, and Their Composites, Blends, and IPNs Jul 22 2019 Natural Polymers, Biopolymers, Biomaterials, and Their Composites, Blends, and IPNs focuses on the recent advances in natural polymers, biopolymers, biomaterials, and their composites, blends, and IPNs. Biobased polymer blends and composites occupy a unique position in the dynamic world of new biomaterials. The growing need for lubricious coatings and surfaces in medical devices—an outcome of the move from invasive to noninvasive medicines/procedures—is playing a major role in the advancement of biomaterials technology. Natural polymers have attained their cutting-edge technology through various platforms, yet there is a lot of novel information about them that is discussed in the book. This important work covers topics such as chitosan composites for biomedical applications and wastewater treatment, coal biotechnology, biomedical and related applications of second generation polyamidoamines, silk fibers, PEG hydrogels, bamboo fiber reinforced PE composites, jute/polyester composites, magnetic biofoams, and many other interesting aspects of importance to polymer research today.
Intelligent Computing, Networking, and Informatics Jun 13 2021 This book is composed of the Proceedings of the International Conference on Advanced Computing, Networking, and Informatics (ICACNI 2013), held at Central Institute of Technology, Raipur, Chhattisgarh, India during June 14–16, 2013. The book records current research articles in the domain of computing, networking, and informatics. The book presents original research articles, case-studies, as well as review articles in the said field of study with emphasis on their implementation and practical application. Researchers, academicians, practitioners, and industry policy makers around the globe have contributed towards formation of this book with their valuable research submissions.
Edible Medicinal And Non Medicinal Plants Jun 01 2020 This book continues as volume 3 of a multi-compendium on Edible Medicinal and Non-Medicinal Plants. It covers edible fruits/seeds used fresh or processed, as vegetables, spices, stimulants, edible oils and beverages. It encompasses species from the following families: Ginkgoaceae, Gnetaceae, Juglandaceae, Lauraceae, Lecythidaceae, Magnoliaceae, Malpighiaceae, Malvaceae, Marantaceae, Meliaceae, Moraceae, Moringaceae, Muntigiaceae, Musaceae, Myristicaceae and Myrtaceae. This work will be of significant interest to scientists, researchers, medical practitioners, pharmacologists, ethnobotanists, horticulturists, food nutritionists, agriculturists, botanists, conservationists, lecturers, students and the general public. Topics covered include: taxonomy; common/English and vernacular names; origin and distribution; agroecology; edible plant parts and uses; botany; nutritive and pharmacological properties, medicinal uses and research findings; nonedible uses;

and selected references.
Science and Culture Feb 27 2020
Protecting Our Crops - Approaches for Plant Parasitic Nematode Control Sep 16 2021
Fruit Fly Species Infesting Guava and Their Molecular Characterization Oct 29 2022 Fruit fly is a serious pest of almost all fruit crops in the world. If uncontrolled, this pest is capable of causing substantial losses, which cannot be tolerated. They also pose a major threat to global trade, since many countries have invoked quarantine restrictions to minimize the risk of establishment of exotic species. Therefore, successful cultivation and export are highly dependent on effective pest management system. Since, species of fruit fly react differently with its environment, it is very important to know the incidence of fruit flies throughout the year and its correct identification. The export of guava and other fruits and vegetables to different countries of the world is restricted due to infestation of fruit fly. Hence, it becomes necessary to make fruits free from fruit fly. However, as a result of increased importation of fruits and vegetables in recent year, fruit flies of foreign origins have been frequently intercepted at quarantine inspection sites. Consequently, it has become increasingly important to take precautions against their invasion.
An Economic Analysis of the Market for Frozen Guava Nectar Base May 12 2021
Handbook of Fruits and Fruit Processing Mar 10 2021 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 distils thelatest developments and research efforts in this field that areaimed at 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 offruits 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.
Recent Trends in Horticultural Biotechnology Mar 30 2020 Biotechnology is emerging as one of the most innovative technologies in life sciences and is influencing almost every aspect of human life. It provides a set of tools, which if appropriately integrated with other technologies can be applied for the sustainable development of agriculture. Tissue culture is being used to propagate rapidly difficult to root crops and conserve endangered/rare medicinal plants. PCR technology has made it possible to fingerprint genotypes and understand better their genetic relationship. Genetic transformation through direct and vector mediated gene transfer now makes it possible to incorporate novel genes for desirable traits. The various bioinformatics tools help to interpret the complex data available from biological experiments. the book has two volumes divided into 8 sections comprising of more than 140 research articles and papers.
Third Regional Workshop on Tropical Fruits Oct 17 2021
Process-Induced Chemical Changes in Food Sep 23 2019 Chemical changes that occur in foods during processing and storage are manifold and might be both desirable and undesirable in nature. While many of the processes are carried out intentionally, there are also certain unwanted changes that naturally occur in food and might have to be controlled. Therefore, efforts are made to devise processing technologies in which desirable attributes of foods are retained and their deleterious ef fects are minimized. While proteins, lipids and carbohydrates are the main nutrients of food that are affected by processing, it is their interaction with one another, as well as in volvement oflow-molecular-weight constituents that affects their flavor, color and overall acceptability. Thus, generation of aroma via thermal processing and bioconversion is of utmost importance in food preparation. Furthermore, processing operations must be opti mized in order to eliminate or reduce the content of antinutrients that are present in foods and retain their bioactive components. Therefore, while novel processing technologies such as freezing, irradiation, microwaving, high pressure treatment and fermentation might be employed, control process conditions in a manner that both the desirable sensory attributes and wholesomeness of foods are safeguarded is essential. Obviously, method ologies should also be established to quantitate the changes that occur in foods as a result of processing. This volume was developed from contributions provided by a group of internation ally-recognized lead scientists.
Biorefinery Production Technologies for Chemicals and Energy Sep 28 2022 This book covers almost all of the diverse aspects of utilizing lignocellulosic biomass for valuable biorefinery product development of chemicals, alternative fuels and energy. The world has shifted towards sustainable development for the generation of energy and industrially valuable chemicals. Biorefinery plays an important role in the integration of conversion process with high-end equipment facilities for the generation of energy, fuels and chemicals. The book is divided into four parts. The first part, "Basic Principles of Biorefinery," covers the concept of biorefinery, its application in industrial bioprocessing, the utilization of biomass for biorefinery application, and its future prospects and economic performance. The second part, "Biorefinery for Production of Chemicals," covers the production of bioactive compounds, gallic acid, C4, C5, and C6 compounds, etc., from a variety of substrates. The third part, "Biorefinery for Production of Alternative Fuel and Energy," covers sustainable production of bioethanol, biodiesel, and biogas from different types of substrates. The last part of this book discusses sequential utilization of wheat straw, material balance, and biorefinery approach. The approaches presented in this book will help readers/users from different areas like process engineering and biochemistry to plan integrated and inventive methods to trim down the expenditure of the industrial manufacture process to accomplish cost-effective feasible products in biorefinery.
Guava Jun 25 2022 Guava (Psidium guajava L.) is an exquisite, nutritionally and economically valuable crop of tropical and subtropical regions of the world. It outshines other tropical fruits in productivity, hardiness, adaptability, nutritional value, and ensures higher economic returns to growers. Guava is commercially grown in over 70 countries, and is gaining in popularity as a 'super fruit' due to its nutritional and health benefits. With contributions from international experts, this is a valuable resource for researchers and students in horticulture, and guava-industry support personnel.
Charting the Sustainable Future of ASEAN in Science and Technology Nov 18 2021 This book showcases selected conference papers addressing the sustainable future of ASEAN from the perspectives of science and technology disciplines. In addressing the 17 Sustainable Developments Goals (SDGs) envisioned by the United Nations in the domains of environment, health and well-being, posing potential means of reducing inequalities globally, the authors target specific issues and challenges confronting the fast-growing region of ASEAN and present suggestions for co-operation and commitment from governments, non-governmental organisations (NGOs) and society at large, in line with the ASEAN Vision 2020. Papers are selected from the 3rd International Conference on the Future of ASEAN (ICoFA) 2019, organised by Universiti Teknologi MARA in Malaysia, whose conference theme “Charting the Sustainable Future of ASEAN” enables intellectual discourse on sustainability issues from science and technology, as well as business and the social sciences. The selection of papers is published in two books, comprised of scholarly and practical insights on sustainability in ASEAN. This book from science and technology scholars is of interest to researchers and policymakers interested in sustainability developments in the ASEAN region.
Advances in Food Analysis Jan 28 2020 This Topical Collection of Molecules provides the most recent advancements and trends within the framework of food analysis, confirming the growing public, academic, and industrial interest in this field. The articles broach topics related to sample preparation, separation

science, spectroscopic techniques, sensors and biosensors, as well as investigations dealing with the characterization of macronutrients, micronutrients, and other biomolecules. It offers the latest updates regarding alternative food sources (e.g., algae), functional foods, effects of processing, chiral or achiral bioactive compounds, contaminants, and every topic related to food science that is appealing to readers. Nowadays, the increasing awareness of the close relation among diet, health, and social development is stimulating demands for high levels of quality and safety in agro-food production, as well as new studies to fill gaps in the actual body of knowledge about food composition. For these reasons, modern research in food science and human nutrition is moving from classical methodologies to advanced instrumental platforms for comprehensive characterization. Nondestructive spectroscopic and imaging technologies are also proposed for food process monitoring and quality control in real time.

Tropical Fruit Processing Sep 04 2020 Tropical Fruit Processing focuses on the improved food preservations methods of tropical fruits for lesser developed and developed countries. This book covers four tropical fruits, namely, guava, mango, papaya, and passion fruit. These fruits have the greatest growth potential based on the knowledge and technology acquired in their cultivation, processing, and preservation. Each chapter in this book discusses the botany, cultivars, horticulture, harvesting, handling, storage, composition, packing, and processing of the fruit. A variety of processed products from these fruits, such as jellies, jams, preserves, purees, sauces, and juices, are also covered. Furthermore, this book describes various food preservation methods including dehydration, concentration, and canning. This book is an invaluable resource for scientists, technologists, manufacturers, students, and others concerned with cultivating, processing, manufacturing, research, development, or marketing of foods.

Mediterranean Fruits Bio-wastes Jan 20 2022 Traditional Mediterranean fruits (i.e., be grapes, oranges, apples, pears, peaches, cherries, plums, figs, melons, watermelon and dates) are of major commercial and nutritional value to the region. Processing of such fruits, however, results in large amounts of bio-waste material. Efficient, inexpensive and environmentally friendly use of fruit industry waste is thus highly cost-effective and minimizes environmental impact. The natural antioxidants and bioactive compounds found in Mediterranean fruit bio-wastes could play a major role in the alleged health benefits of the Mediterranean diet, and could be used in pharmaceuticals as well as novel food applications. This book presents a multidisciplinary forum of discussion on the chemistry, functional properties, health-promoting effects of bioactive compounds in Mediterranean fruit bio-wastes, as well as novel food and non-food applications. The text provides the scientific fundamentals of the health-promoting benefits and applications of Mediterranean fruit bio-wastes, reviews the relevant recovery issues, and explores different techniques to develop new applications. With a diversity of perspectives, from food science to environmental chemistry and horticultural research, this volume provides comprehensive, up-to-date knowledge to researchers and industry professionals working in the areas of food waste valorization. .