Chemical Composition Of Persea Americana Leaf Fruit And Seed Pdf Pdf

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Edible Medicinal And Non Medicinal Plants Lim T. K. 2012-02-09 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.
Quality Control Methods for Medicinal Plant Materials World Health Organization 1998 A collection of test procedures for assessing the identity, purity, and content of medicinal plant materials, including determination of pesticide residues, arsenic and heavy metals. Intended to assist national laboratories engaged in drug quality control, the manual responds to the growing use of medicinal plants, the special quality problems they pose, and the corresponding need for international guidance on reliable methods for quality control. Recommended procedures - whether involving visual inspection or the use of thin-layer chromatography for the qualitative determination of impurities - should also prove useful to the pharmaceutical industry and pharmacists working with these materials.
Phytonutritional Improvement of Crops Noureddine Benkeblia 2017-07-25 An in-depth treatment of cutting-edge work being done internationally to develop new techniques in crop nutritional quality improvement Phytonutritional Improvement of Crops explores recent advances in biotechnological methods for the nutritional enrichment of food crops. Featuring contributions from an international group of experts in the field, it provides cutting-edge information on techniques of immense importance to academic, professional and commercial operations. World population is now estimated to be 7.5 billion people, with an annual growth rate of nearly 1.5%. Clearly, the need to enhance not only the quantity of food produced but its quality has never been greater, especially among less developed nations. Genetic manipulation offers the best prospect for achieving that goal. As many fruit crops provide proven health benefits, research efforts need to be focused on improving the nutritional qualities of fruits and vegetables through increased synthesis of lycopene and beta carotene, anthocyanins and some phenolics known to be strong antioxidants. Despite tremendous growth in the area occurring over the past several decades, the work has only just begun. This book represents an effort to address the urgent need to promote those efforts and to mobilise the tools of biotechnical and genetic engineering of the major food crops. Topics covered include: New applications of RNA-interference and virus induced gene silencing (VIGS) for nutritional genomics in crop plants Biotechnological techniques for enhancing carotenoid in crops and their implications for both human health and sustainable development Progress being made in the enrichment and metabolic profiling of diverse carotenoids in a range of fruit crops, including tomatoes, sweet potatoes and tropical fruits Biotechnologies for boosting the phytonutritional values of key crops, including grapes and sweet potatoes Recent progress in the development of transgenic rice engineered to massively accumulate flavonoids in-seed Phytonutritional Improvement of Crops is an important text/reference that belongs in all universities and research establishments where agriculture, horticulture, biological sciences, and food science and technology are studied, taught and applied.
Postharvest Handling Wojciech J. Florkowski 2009-02-21 Consideration of the interactions between decisions made at one point in the supply chain and its effects on the subsequent stages is the core concept of a systems approach. Postharvest Handling is unique in its application of this systems approach to the handling of fruits and vegetables, exploring multiple aspects of this important process through chapters written by experts from a variety of backgrounds. Newly updated and revised, this second edition includes coverage of the logistics of fresh produce from multiple perspectives, postharvest handing under varying weather conditions, quality control, changes in consumer eating habits and other factors key to successful postharvest handling. The ideal book for understanding the economic as well as physical impacts of postharvest handling decisions. Key Features: *Features contributions from leading experts providing a variety of perspectives *Updated with 12 new chapters *Focuses on application-based information for practical implementation *System approach is unique in the handling of fruits and vegetables
Biochemistry of Fruit Ripening G.B. Seymour 2012-12-06 It is over 20 years since the publication of A.c. Hulme's two volume text on The Biochemistry of Fruits and thei.r Products. Whilst the bulk of the information contained in that text is still relevant it is true to say that our understanding of the biochemical and genetic mech
Phytochemical analysis of avocado seeds (Persea americana Mill., c.v. Hass) María del Refugio Ramos-Jerz 2007
Water Scarcity and Sustainable Agriculture in Semiarid Environment Ivan Francisco Garcia Tejero 2018-01-03 Water Scarcity and Sustainable Agriculture in Semiarid Environment: Tools, Strategies and Challenges for Woody Crops explores the complex relationship between water scarcity and climate change, agricultural water-use efficiency, crop-water stress management and modeling water scarcity in woody crops. Understanding these cause- and effect relationships and identifying the most appropriate responses are critical for sustainable crop production. The book focuses on Mediterranean environments to explain how to determine the most appropriate strategy and implement an effective plan; however, core concepts are translational to other regions. Informative for those working in agricultural water management, irrigation and drainage, crop physiology and sustainable agriculture. Focuses on semi-arid crops including olive, vine, citrus, almonds, peach, nectarine, plum, subtropical fruits and others Explores crop physiological responses to drought at plant, cellular and/or molecular levels Presents tool options for assessing crop-water status and irrigation scheduling
Antioxidants in Fruits: Properties and Health Benefits Gulzar Ahmad Nayik 2020-12-15 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.
Fruit and Vegetable Phytochemicals Laura A. de la Rosa 2009-10-13 Fruit and Vegetable Phytochemicals: Chemistry, Nutritional Value and Stability provides scientists in the areas of food technology and nutrition with accessible and up-to-date information about the chemical nature, classification and analysis of the main phytochemicals present in fruits and vegetables – polyphenols and carotenoids. Special care is taken to analyze the health benefits of these compounds, their interaction with fiber, antioxidant and other biological activities, as well as the degradation processes that occur after harvest and minimal processing.
Handbook of Fruit Wastes and By-Products Khalid Muzaffar 2022-10-03 Processing of fruits produces large volumes of wastes and by-products, which can create environmental problems. However, these fruit processing residues have amazing nutritional composition, containing good amounts nutrients and biofunctional components. So, the current trend in the present world it to efficiently utilize these fruit wastes and byproducts and minimizing their impact on the environment. Proper utilization of fruit processing wastes and 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 byproducts. ‘Handbook of Fruit Wastes and By-Products: Chemistry, Processing Technology and Utilization’ will be the first book devoted to fruit processing wastes and by-products of wide range of important fruits including tropical, subtropical, and temperate fruits. Key features: · Provides comprehensive information about the chemistry of wastes and byproducts obtained during fruit processing · Provide in-depth information about the bioactive potential of fruit processing wastes and byproducts · Explores new strategies used for proper valorization of fruit processing residues · Describes the utilization of nutraceutical components derived from fruit processing residues in fabrication of novel functional foods Although, there are some general books on byproducts of food processing industry, but they are limited in context, related to only some particular fruits. The unique quality of this book is that it provides a full-length study of the different developments made right from the basic technologies involved in management of fruit wastes and byproducts to the recent advancements and future areas of research to be done on this subject. This book would be a valuable resource for scientists, researchers, professionals, and enterprises that aspire in management of fruit processing wastes and byproducts, and their utilization.
Phytotherapy in the Management of Diabetes and Hypertension Mohamed Eddouks 2016-02-02 Phytotherapy has the potential to give patients long term benefits with less or no side effects. This is the second volume of the series. This volume brings 11 chapters that cover updates on general phytotherapy, traditional Chinese medicine as well as information on anti-diabetic and antihypertensive herbs (including Senna spp., Curcumin, Carum carvi, Premna serratifolia, Eugenia jambolana and more). The monographs presented within this volume give several details necessary for pharmacopoeial data for quality assurance of pharmaceutical products derived from these specific plant sources: botanical features, distribution, identity tests, purity requirements, chemical assays, active or major chemical constituents, clinical applications, pharmacology, contraindications, warnings, precautions, potential adverse reactions, and posology. Hence academic and professional pharmacologists or clinicians will find comprehensive information on a variety of therapeutic agents along with guidelines for applying them in practical phytotherapy of diabetes and hypertension.
Bwa Yo Joel Timyan 1996
Food loss and waste and value chains Food and Agriculture Organization of the United Nations 2019-09-17 Food Loss and Waste and Food Value Chains - Learning Guide is a guide designed for students (aged 12-15) in secondary schools with the objective of raising awareness on the topics of food value chains, food loss and waste, and nutrition. This is one of two books, the other is dedicated to teachers. This guide helps the students in linking the three topics learned with the activities and content in the guide.
Vegetables and Fruits Thomas S. C. Li 2008-01-24 The modern synthetic diet, formulated to appeal to our inherent attraction to sugar, salt, fats, and calories at the expense of nutrition, leaves us over-fed and under-nourished. A considerable portion of chronic human diseases, including diabetes and heart disease, appear to be related largely to a diet that is inadequate in the essential vitamins, minerals, phytonutrients, and other constituents found in natural, unprocessed foods. Employing a no-nonsense, tabular format, Vegetables and Fruits: Nutritional and Therapeutic Values presents detailed information on nutritional and therapeutic constituents and their applications for more than 200 vegetables and fruits currently available in North American markets. Edited by one of the world’s best known and respected researchers, this comprehensive reference guide begins with a general introduction to essential human values such as protein, minerals, vitamins, and fiber. Five tables list nutritional and therapeutic values, vitamin and mineral content, and flavonoid, isoflavone, and carotenoid presence in raw vegetables. The sixth presents uses of vegetables and fruits to maintain health and fight disease. Five appendices provide lists of scientific and English names, as well as a review of chemical compounds and their sources. Today, dietitians agree that plant foods should comprise the major part of the healthy human diet. Moreover, they have determined that fruits and vegetables are the keys to obtaining not just adequate vitamins and minerals, but a wide variety of other elements that can contribute therapeutically to human health. With the increasing emphasis on good nutrition and healthy eating, this handy guide is crucial to ensuring optimal nutrition from a plant-based diet.
Sensory-Directed Flavor Analysis Ray Marsili 2006-09-11 Today, flavor chemists can generate copious amounts of data in a short time with relatively little effort using automated solid phase micro-extraction, Gerstel-Twister and other extraction techniques in combination with gas chromatographic (GC) analysis. However, more data does not necessarily mean better understanding. In fact, the ability to extr
Toxic Plants of North America George E. Burrows 2013-01-29 Toxic Plants of North America, Second Edition is an up-to-date, comprehensive reference for both wild and cultivated toxic plants on the North American continent. In addition to compiling and presenting information about the toxicology and classification of these plants published in the years since the appearance of the first edition, this edition significantly expands coverage of human and wildlife—both free-roaming and captive—intoxications and the roles of secondary compounds and fungal endophytes in plant intoxications. More than 2,700 new literature citations document identification of previously unknown toxicants, mechanisms of intoxication, additional reports of intoxication problems, and significant changes in the classification of plant families and genera and associated changes in plant nomenclature. Toxic Plants of North America, Second Edition is a comprehensive, essential resource for veterinarians, toxicologists, agricultural extension agents, animal scientists, and poison control professionals.
Valorization of Fruit Processing By-products Charis Michel Galanakis 2019-09-14 Valorization of Fruit Processing By-products covers the most recent advances in the field of fruit processing by-products following sustainability principles. The urgent need for sustainability within the food industry necessitates research to investigate the handling of by-products with another perspective, e.g. by adapting more profitable options. This book covers the latest developments in this particular direction. It promotes success stories and solutions that ensure the sustainable management of different fruit processing by-products (namely apple, apricot, avocado, Castanea sativa, citrus, date, mango, melon, passion fruit, pineapple, pink guava, pomegranate and watermelon), giving emphasis on the recovery of polyphenols, antioxidants and dietary fiber. Written by a team of experts in food processing and engineering, chemistry and food waste, this title is the definite guide for all the involved partners, engineers, professionals and producers active in the field. Explores fruit processing techniques, scale up limitations and economical evaluation for each source of fruit processing by-product Discusses the valorization of by-products derived from different fruits Features the following fruits, including apple, avocado, chestnut, citrus, date, mango, melon and watermelon, passion fruit, pineapple, pink guava and pomegranate
Gourmet and Health-Promoting Specialty Oils Robert Moreau 2015-08-25 The third volume in the AOCS PRESS MONOGRAPH SERIES ON OILSEEDS is a unique blend of information focusing on edible oils. These oils contain either unique flavor components that have lead to their being considered "gourmet oils," or contain unique health-promoting chemical components. Each chapter covers processing, edible and non-edible applications, lipids, health benefits, and more related to each type of oil. Includes color illustrations of over 20 health-promoting specialty oils Comprehensive resource for the chemical and physical properties and extraction and processing methods of these specialty oils Describes and and includes the health effects of over 50 different oils from plants, algae, fish, and milk
The Chemistry and Applications of Sustainable Natural Hair Products Kalyani Barve 2016-01-27 This book investigates the relationship between phytoconstituents and properties in specific plants, such as Hibiscus rosa sinesis, Cuscuta reflexa, Citrullus colocynthis, Nardostachys jatamansi and Ocimum gratissimum, that are used in hair care products including shampoos, conditioners, dyes, and oils. It explains the impact of these materials on the growth, structure, appearance, and health of hair. It also explores how the chemistry of certain plants from sustainable sources is exploited for use in hair products and nutraceuticals. Additionally, the authors include information on ingredients used for formulating 'green' hair products that treat common conditions such as canities, dandruff and alopecia.
Health-Promoting Properties of Fruits and Vegetables Leon Terry 2011 Fruits and vegetables are one of the richest sources of ascorbic acid, other antioxidants and produce-specific bioactive compounds. A general consensus from health experts has confirmed that an increased dietary intake of antioxidant compounds found in most fresh produce types may protect against oxidative damage caused by free radicals and reduce the incidence of certain cancers and chronic diseases. Currently there is no book available which collectively discusses and reviews empirical data on health-promoting properties of all fresh produce types. This book will provide detailed information on identity, nature, bioavailablity, chemopreventative effects, and postharvest stability of specific chemical classes with known bioactive properties. In addition, chapters discuss the various methodologies for extraction, isolation, characterization and quantification of bioactive compounds and the in-vitro and in-vivo anticancer assays. It will be an essential resource for researchers and students in food science, nutrition and fruit and vegetable production.
The Encyclopedia of Healing Foods Michael T. Murray 2010-05-11 From the bestselling authors of The Encyclopedia of Natural Medicine, the most comprehensive and practical guide available to the nutritional benefits and medicinal properties of virtually everything edible As countless studies have affirmed, diet plays a major role in both provoking and preventing a wide range of diseases. But just what is a healthy diet? What does the body need to stay strong and get well? In The Encyclopedia of Healing Foods, Michael T. Murray, N.D., and Joseph Pizzorno, N.D., two of the world¹s foremost authorities on nutrition and wellness, draw on an abundant harvest of research to present the best guide available to healthy eating. Make healthy eating a lifetime habit. Let The Encyclopedia of Healing Foods teach you how to: design a safe diet use foods to stimulate the body¹s natural ability to rejuvenate and heal discover the role that fiber, enzymes, fatty acids, and other dietary components have in helping us live healthfully understand which food prescriptions will help you safely treat more than 70 specific ailments, including acne, Alzheimer¹s disease, immune system depression, insomnia, migraine headaches, PMS, and rheumatoid arthritis prepare foods safely in order to prevent illness and maximize health benefits select, store, and prepare all kinds of healthful foods Providing the best natural remedies for everyday aches and pains, as well as potent protection against serious diseases, The Encyclopedia of Healing Foods is a required daily health reference.
The Avocado Bruce A. Schaffer 2013 This book is comprised of 15 chapters covering principles and basic understanding in avocado science, technology, best management practices and postharvest aspects. It is aimed at avocado researchers, libraries, teachers and academics, students, advisers, cutting edge growers and industry support personnel. Topics discussed include the history, distribution, uses, taxonomy, botany, genetics, breeding, ecology, reproductive biology, ecophysiology, cultivars and rootstocks, propagation, biotechnology, irrigation and mineral nutrition, crop management, foliar, fruit and soil-borne diseases, insect and mite pests and harvesting, packing, postharvest technology, transport and processing.
Mediterranean Fruits Bio-wastes Mohamed Fawzy Ramadan 2022-02-18 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 and 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.
Functional and Preservative Properties of Phytochemicals Bhanu Prakash 2020-02-15 Functional and Preservative Properties of Phytochemicals examines the potential of plant-based bioactive compounds as functional food ingredients and preservative agents against food-spoiling microbes and oxidative deterioration. The book provides a unified and systematic accounting of plant-based bioactive compounds by illustrating the connections among the different disciplines, such as food science, nutrition, pharmacology, toxicology, combinatorial chemistry, nanotechnology and biotechnological approaches. Chapters present the varied sources of raw materials, biochemical properties, metabolism, health benefits, preservative efficacy, toxicological aspect, safety and Intellectual Property Right issue of plant-based bioactive compounds. Written by authorities within the field, the individual chapters of the book are organized according to the following practical and easy to consult format: introduction, chapter topics and text, conclusions (take-home lessons), and references cited for further reading. Provides collective information on recent advancements that increase the potential use of phytochemicals Fosters an understanding of plant-based dietary bioactive ingredients and their physiological effects on human health at the molecular level Thoroughly explores biotechnology, omics, and bioinformatics approaches to address the availability, cost, and mode of action of plant-based functional and preservative ingredients
Potensi Kombinasi Tithonia diversifolia dengan daun alpukat Persea americana miller Sebagai Pakan Alternatif Ternak Kambing Dr. Roni Pazla, S. Pt, MP. Prof. Dr. Ir. Novirman Jamarun, M. Sc. Gusri Yanti, SP, MP. Dwi Nanda Indah Sari, S.Pt. Indra Saputra, S.Pt. dan Selmia Susanti, S.Pt Judul : Potensi Kombinasi Tithonia diversifolia dengan daun alpukat Persea americana miller Sebagai Pakan Alternatif Ternak Kambing Penulis : Dr. Roni Pazla, S. Pt, MP. Prof. Dr. Ir. Novirman Jamarun, M. Sc. Gusri Yanti, SP, MP. Dwi Nanda Indah Sari, S.Pt. Indra Saputra, S.Pt. dan Selmia Susanti, S.Pt. Ukuran : 15,5 x 23 cm Tebal : 131 Halaman NO ISBN : 978-623-497-057-9 Tahun Terbit : September 2022 Sinopsis Daun alpukat (Persea americama miller) merupakan limbah dari perkebunan alpukat setelah dilakukan pemangkasan cabang. Pemangkasan cabang diperlukan karena akan berdampak lansung pada factor lingkungan dan keberlanjutan budidaya alpukat. Namun saat ini limbah dari perkebunan alpukat kurang dimanfaatkan oleh masyarakat sebagai pakan ternak, sama halnnya seperti tanaman paitan. Tanaman paitan (Tithonia diversifolia) merupakan tanaman semak yang berpotensi besar untuk dijadikan pakan ternak namun masih kurang termanfaatkan dengan baik , hanya sebagian orang yang mengunakannya sebagai mulsa atau pestisida alami dan belum banyak dimanfaatkan sebagai pakan ternak terutama ruminansia. Tanaman paitan dan daun alpukat dapat dijadikan sebagai pakan alternatif bagi ternak ruminansia. Namun kendala dari pengunaan tanaman paitan dan daun alpukat adalah zat anti gizi seperti asam fitat, tanin, saponin, oksalat, alkaloid dan flavonoid. Faktor pembatas tersebut, baik zat yang lansung terkandung dalam bahan pakan maupun melalui produk metabolisme pada ternak, dapat menganggu penggunan pakan. Selain itu, dapat mempengaruhi kesehatan dan produksi ternak melalui mekanisme penurunan asupan nutrisi, gangguan pencernaan dan penyerapan serta menyebabkan efek samping yang merugikan. Kandungan zat antinutrisi yang paling banyak di titonia dan daun alpukat adalah asam fitat dan tanin. Kandungan asam fitat dan tanin yang tinggi pada tanaman tittonia dan daun alpukat menyebabkan rasa pahit , sehingga kurang disukai oleh ternak. Asam fitat dalam suatu bahan pakan juga dapat mengangu penyerapan mineral karena asam fitat memiliki chelating agent yang dapat mengikat mineral sehingga ketersediaan biologis mineral tersebut menurun. Pada ternak kambing perah , konsentrasi pemberian titonia yang tinggi membuat rasa susu kambing terasa agak pahit. Sehingga dilakukanlah fermentasi tithonia dengan mengunakan lactobacillus bulgaricus yang mampu mereduksi kadar asam fitat pada titonia dan meningkatkan kadar mineral fosfor sehingga mampu dimanfaatkan mikroba rumen untuk pertumbuhan dan aktivitasnya. Kombinasi dari Tithonia diversifolia dengan daun adpukat serta penggunaan konsentrat berbahan lokal akan dapat menekan biaya ransum dari usaha kambing perah karna bahan-bahan ini merupakan bahan lokal dan mudah didapat. Hasil penelitian ini dapat memberikan kontribusi dan solusi serta pemanfaatan dari bahan pakan local dan limbah limbah perkebunan dalam rangka mewujudkan ketahanan pakan, yang muaranya untuk mendukung program ketahanan pangan serta menunjang program swasembada susu yang dicanangkan pemerintah.
Bioactives and Pharmacology of Medicinal Plants T. Pullaiah 2022-08-25 This two-volume book presents an abundance of important information on the

bioactive and pharmacological properties of medicinal plants. It provides valuable comprehensive research and studies on bioactive phytocompounds of over 68 important medicinal plants with beneficial properties. For each species included in the volume, a brief introduction is given along with their bioactive compounds and chemical structures, followed by their chief pharmacological activities that include antiviral, antimicrobial, antioxidant, anti-cancer, anti-inflammatory, antidiabetic, hepatoprotective, nephroprotective, and cardioprotective activities. A review of the published literature on pharmacological activities of each species is included also, providing a thorough resource on each of the plants covered in the volume. The book's editor, an acknowledged expert in this area, foresees that these volumes will become a reliable standard resource for the development of new drugs. The volumes will be a valuable addition to the libraries of pharmacy institutes and pharmacy professors, research scholars, and postgraduate students of pharmacy and medicine, and enlightened medical professionals and pharmacists, phytochemists, and botanists will find much of value as well.

Medicinal Plants Bassam Hassan 2020-03-25 This book is focused on clarifying the anticancer effects (i.e., apoptotic, antiproliferative, antimetastatic, antiangiogenic) and mechanisms of most of the medicinal plants found in the world against solid and/or hematological cancers.

Determination of Avocado Fruit Ripening Stage Using an Electronic Nose with Fuzzy Logic Algorithm Julie-Ann Parañal 2019-10-20 Academic Paper from the year 2019 in the subject Electrotechnology, language: English, abstract: This paper examines and measures the concentration of the metal oxide gas sensors in determining the ripeness using the ethylene gas in fruits. The preliminary performance of the electronic nose has been demonstrated at the ripening stage of the avocado fruit and is compared to the separation machine. Confusion matrix was used to show the accuracy of the system in detecting ripening stage. This study used the fuzzy logic algorithm to classify and achieve an accuracy rate of 82,5 percent of classifying unripe, ripe, and overripe of the fruits. Ethylene is a gaseous plant hormone that naturally occurs in fruits and helps speed up the ripening process. Persea Americana, or Avocado, is a climacteric fruit that does not produce large amounts of ethylene while still attached to the tree. Therefore, it does not ripen until harvested, and thus, its ripeness cannot be determined by the naked eye. Since fruit quality is judged by consumers primarily from their perception of the acceptability of fruits based on characteristics including visual appeal (lack of blemishes, color, size, and texture), relying on such methods is not applicable for Avocado in general. The use of an electronic nose - an intelligent sensing device that can sense aroma more effectively than the human sense of smell - would prove to be useful. It also possesses a non-destructive property, therefore resulting into it being selected to be the ideal digital, electronic device for identifying, characterizing, and grading fruits ripeness. The main objective of this study is to measure ethylene and other metal oxide gases present in determining the ripeness stage of persea americana samples through electronic nose using fuzzy based classification algorithms and to verify the accuracy of results by comparing it to data from human expert graders of fruits. This study categorizes the metal oxide gas present in f

Handbook of Antioxidants for Food Preservation Fereidoon Shahidi 2015-02-25 Lipid oxidation in food leads to rancidity, which compromises the sensory properties of food and makes it unappealing to consumers. The growing trend towards natural additives and preservatives means that new antioxidants are emerging for use in foods. This book provides an overview of the food antioxidants currently available and their applications in different food products. Part one provides background information on a comprehensive list of the main natural and synthetic antioxidants used in food. Part two looks at methodologies for using antioxidants in food, focusing on the efficacy of antioxidants. Part three covers the main food commodities in which antioxidants are used. Reviews the various types of antioxidants used in food preservation, including chapters on tea extracts, natural plant extracts and synthetic phenolics Analyses the performance of antixoxidants in different food systems Compiles significant international research and advancements

Chitosan in the Preservation of Agricultural Commodities Silvia Bautista-Baños 2016-01-20 Chitosan in the Preservation of Agricultural Commodities presents a cohesive overview of research topics regarding the production and characterization of chitosan, the development of coatings and fi lms, its functional properties, and antimicrobial potential of this compound on economically important agricultural commodities. It includes the modes of action from a physiological, enzymatic, and molecular perspective, and evaluations of the activity of chitosan nanocomposites and nanoparticles in biological models. The first section deals with the chemical characteristics and functional properties of chitosan and new chitosan-based biomaterials intended for food preservation. The second section covers various aspects of the control achieved by chitosan on different microorganisms affecting various horticultural commodities, grains, and ornamentals, and its modes of action. The third section explores enzymatic and gene expression induction by chitosan application on fruit and vegetables; the fourth section offers insight on the use of chitosan nanocomposites in biological models associated with food conservation and control of microorganisms. Analyzes chitosan chemical and functional properties Explores obtaining, characterizing, and developing chitosan coatings and fi lms for agricultural use Presents functional properties, antimicrobial potential, and modes of action of chitosan from a physiological, enzymatic, and molecular perspective Includes biological models of the activity of chitosan nanocomposites and nanoparticles

Carbon-13 NMR of Flavonoids P.K. Agrawal 2013-10-22 This detailed treatise is written for chemists who are not NMR spectroscopists but who wish to use carbon-13 NMR spectroscopy. It shows why measurement of carbon-13 NMR is needed and explains how the method can - or should - be used for rapid characterization of flavonoids, one of the most diverse and widespread groups of natural constituents. The first part of the book presents background information and discussion of the essential aspects of flavonoids and carbon-13 NMR spectroscopy and demonstrates its significant role in the revision of several earlier established chemical structures. It discusses various one- and two-dimensional NMR spectroscopic techniques and other relevant experimental methodologies for the interpretation of spectral details which enable individual resonance lines to be associated with the appropriate carbons in a molecule. The second part provides a comprehensive coverage of the carbon-13 chemical shifts of various classes and subclasses of flavonoids. It also illustrates how to utilize carbon-13 data to gain information for the determination of the nature, number and site of any substituent in flavonoids. Vital information for the differential and complete structure elucidation of the various classes of flavonoids by carbon-13 NMR shielding data is described in-depth in the third part of the book. The book will be welcomed by all those working in natural product chemistry who will appreciate the non-mathematical approach and the fact that such a wealth of theoretical and practical information has been assembled in a single volume.

Pesticides Documentation Bulletin 1965

South American Medicinal Plants I. Roth 2013-04-17 This unique reference book meticulously lists a vast variety of the extensive South American flora, in particular the one of Venezuela. Pharmacists, pharmacologists, toxicologists and botanists will find that this encyclopaedia unprecedented in depth and detail. In an A-Z format, more than 80 plant families are covered. Botanical information of the individual species is given together with their specific use in traditional South American medicine. More than 250 detailed figures allow easy identification.

Phytochemistry 2006

Avocado Consumption and Health María Guiomar Melgar Lalanne 2020 "Avocado (Persea americana Mill.) is a tropical tree native from south-central Mexico, showing nowadays an increasing commercial interest worldwide for its unique sensorial characteristics, high nutritional quality, and its medicinal uses. The global market is ruled by the exportation of the fresh fruit; but, the presence of avocado products (mainly avocado oil) is gaining interest and currently involves close to 20%, both for human and industrial (mainly cosmetic) purposes. The fruits are mostly consumed raw as guacamole, a dip traditionally made by mashing ripe avocados with salt or added as an ingredient in salads. Avocado fruit is rich in healthy monounsaturated fatty acids (mostly oleic acid) and fiber. Moreover, the fruit is rich in bioactive compounds such as polyphenols, carotenoids, tocopherols, potassium, and sitosterol. Their health properties are mostly related to the high amount of antioxidant compounds present. Thus, it is used as an auxiliary agent in the reduction of cholesterol and triglyceride levels and weight management. In the food industry, the use of avocado oil as a preservative has been explored for its high antimicrobial activity. Therefore, this book covers a wide variety of topics related to avocado fruit and avocado by-products, including their therapeutic and nutraceutical potential, their bioactive compounds, and oxidative stability. Also, new research about the characterization of avocado and avocado-based products, its conservation, and potential use as a food industrial antioxidant and antimicrobial is included as well. Finally, an interesting update of patents on avocado products related to health is also reviewed"--

Fatty Acids in Foods and Their Health Implications Ching Kuang Chow 1999-11-12 An examination of certain types of fatty acids and their role in the aetiology of cancer, cardiovascular disease, immune and inflammatory diseases, renal disease, diabetes, neuromuscular disorders, liver disease, mental illness, visual dysfunction, and ageing. It reviews historic advances in biotechnology, including techniques for genetic manipulation of fatty acid composition. This revised and expanded second edition contains 11 new chapters.

Fruit Crops Anoop Kumar Srivastava 2019-11-30 Fruit Crops: Diagnosis and Management of Nutrient Constraints is the first and only resource to holistically relate fruits as a nutritional source for human health to the state-of-the-art methodologies currently used to diagnose and manage nutritional constraints placed on those fruits. This book explores a variety of advanced management techniques, including open field hydroponic, fertigation/bio-fertigation, the use of nano-fertilizers, sensors-based nutrient management, climate- smart integrated soil fertility management, inoculation with microbial consortium, and endophytes backed up by ecophysiology of fruit crops. These intricate issues are effectively presented, including real-world applications and future insights. Presents the latest research, including issues with commercial application Details comprehensive insights into the diagnosis and management of nutrient constraints Includes contributions by world renowned researchers, providing global perspectives and experience

Chemistry and Biology of Ellagitannins

Exotic Fruits Reference Guide Sueli Rodrigues 2018-01-05 Exotic Fruits Reference Guide is the ultimate, most complete reference work on exotic fruits from around the world. The book focuses on exotic fruit origin, botanical aspects, cultivation and harvest, physiology and biochemistry, chemical composition and nutritional value, including phenolics and antioxidant compounds. This guide is in four-color and contains images of the fruits, in addition to their regional names and geographical locations. Harvest and post-harvest conservation, as well as the potential for industrialization, are also presented as a way of stimulating interest in consumption and large scale production. Covers exotic fruits found all over the world, described by a team of global contributors Provides quick and easy access to botanical information, biochemistry, fruit processing and nutritional value Features four-color images throughout for each fruit, along with its regional name and geographical location Serves as a useful reference for researchers, industrial practitioners and students

Impact of Processing on Food Safety Lauren S. Jackson 2012-09-27 The contents of this book are the proceedings of the ACS symposium, "Impact of Processing on Food Safety," which was held April 16-17, 1997, at the American Chemical Society National Meeting in San Francisco, CA. This symposium brought together re searchers from diverse backgrounds in academia, government, and industry. Twenty speakers discussed topics ranging from the regulatory aspects of food processing to the microbiological and chemical changes in food during processing. The main goal of food processing is to improve the microbial safety of food by de stroying pathogenic and spoilage organisms. Food processing can also improve food safety by destroying or eliminating naturally occurring toxins, chemical contaminants, and antinutritive factors. Unfortunately, processing can also cause chemical changes that result in the formation of toxic or antinutritive factors. The purpose of this book is to summarize our knowledge of both the beneficial and deleterious effects of processing. Chapter I con siders the consumer's perceptions about food contaminants and food processing. Chapter 2 summarizes the effects of traditional and nontraditional processing methods on microor ganisms in food. Chapters 3-6 review the effects of processing on lipids (fatty acids and cholesterol) in food. Changes in the nutritive value of vitamins and minerals as a result of processing are discussed in chapter 7. Chapter 8 concentrates on how processing reduces the allergenicity of some foods.