Nuts and Seeds in Health and Disease Prevention

Mangroves are typically tropical coastal ecosystems found in the inter-tidal zones of river deltas and back water areas. They represent highly dynamic and fragile ecosystems, yet they are the most productive and biologically diversified habitats of various life forms including plants, animals and microorganisms. Mangroves are a resource of many different products, including; microorganisms that harbor a diverse group of industrially important enzymes, antibiotics, therapeutic proteins and vaccines; timber resistant to rot and insects; and medicinal plants. Divided into three main parts, Biotechnological Utilization of Mangrove Resources first provides a broad introduction into mangrove ecology. Subsequent chapters discuss the biodiversity of mangroves, including the diverse nature of the organisms within the mangroves themselves. The final part pays special attention to biotechnological utilization of mangroves. Topics such as antimicrobial activity of mangrove-derived products, anti-oxidant activity of mangrove derived products and pharmaceutical applications, are covered in detail. Biotechnological Utilization of Mangrove Resources brings the latest research and technologies in mangrove biology into one platform, providing readers with an up-to-date view on the area. This would serve as an excellent reference book for researchers and students in the field of marine biology especially interested in mangrove ecosystems.

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Protein Byproducts: Transformation from Environmental Burden into Value-Added Products deals with the added value of proteinaceous waste byproducts, discussing in detail the different sources of protein-rich byproducts, their extraction, recovery, and characterization. The book provides thorough insights into different protein modification techniques to extend the product portfolio using these waste byproducts. Divided between three main sections, the book covers various feedstock resources, such as animal-derived/plant-derived proteins, marine waste-derived proteins, protein extraction and recovery methods, and related technical issues including modification and conversion technologies for the production of high value bioproducts. It contains contributions from experts in the fields of applied industrial microbiology, engineering, bioprocess technology, protein chemistry, food chemistry, agriculture, plant sciences, environmental science, and waste management, serving as a comprehensive reference for students and research scientists in the food and agriculture industries. Covers various feedstock resources, protein extraction, recovery methods, and related technical issues Presents modification and conversion technologies for the production of high value bioproducts Exhibits case studies and examples to illustrate both driving forces and constraints in the utilization of these proteinaceous materials Contains contributions from experts in the fields of applied industrial microbiology, engineering, bioprocess technology, protein chemistry, food chemistry, agriculture, plant sciences, environmental science, and waste management Serves as a comprehensive reference for students and research scientists in the food and agriculture industries.
Online Library Nutritional Evaluation Of Seed And Characterization Of

Exploring the Nutrition and Health Benefits of Functional Foods

Chemical and nutritional evaluation of Lupinus Angustifolius L (Sweet Lupin) seed proteins and its fractions on general metabolism of monogastric animals

Nutrition Abstracts and Reviews Sustainable management of soils is an important global issue of the 21st century. Feeding roughly 8 billion people with an environmentally sustainable production system is a major challenge, especially considering the fact that 10% of the world’s population at risk of hunger and 25% at risk of malnutrition. Accordingly, the 68th United Nations (UN) general assembly declared 2016 the “International Year of Pulses” to raise awareness and to celebrate the role of pulses in human nutrition and welfare. Likewise, the assembly declared the year 2015 as the “International Year of Soils” to promote awareness of the role of “healthy soils for a healthy life” and the International Union of Soil Science (IUSS) has declared 2015-2024 as the International Decade of Soils. Including legumes in cropping systems is an important toward advancing soil sustainability, food and nutritional security without compromising soil quality or its production potential. Several textbooks and edited volumes are currently available on general soil fertility or on legumes but, to date, none have been dedicated to the study of “Legumes for Soil Health and Sustainable Management”. This is important aspect, as the soil, the epidermis of the Earth (geo derma), is the major component of the terrestrial biosphere. This book explores the impacts of legumes on soil health and sustainability, structure and functioning of agro-ecosystems, agronomic productivity and food security, BNF, microbial transformation of soil N and P, plant-growth-promoting rhizobacteria, biofertilizers, etc. With the advent of fertilizers, legumes have been sidelined since World War II, which has produced serious consequences for soils and the environment alike. Therefore, legume-based rational cropping/soil management practices must support environmentally and economically sustainable agroecosystems based on (sequential) rotation and intercropping considerations to restore soil health and sustainability. All chapters are amply illustrated with appropriately placed data, tables, figures, and photographs, and supported with extensive and cutting-edge references. The editors have provided a roadmap for the sustainable development of legumes for food and nutritional security and soil sustainability in agricultural systems, offering a unique resource for teachers, researchers, and policymakers, as well as undergraduate and graduate students of soil science, agronomy, ecology, and the environmental sciences.

Alkaloids in edible lupin seeds Health and nutrition have become global focal points as the population continues to grow exponentially. While providing food for the global population is crucial, it is also necessary to provide options that are nutritious in order to promote healthier lifestyles around the world. Exploring the Nutrition and Health Benefits of Functional Foods provides a comprehensive overview of how dietary nutrition can impact people’s lives, prevent disease, and maintain an overall healthier lifestyle. Highlighting theoretical and practical attributes of different functional foods and how they are utilized globally, this book is an essential reference for researchers, academics, students, policy makers, government officials, and technology developers.

Health Benefits of Nuts and Dried Fruits Here, the author has compiled data on about 550 oil-bearing plant species with respect to their content of unsaponifiable matters and oils. This unique information resource offers important information for research and development of food products such as neutraceuticals as well as cosmetics. Unsaponifiable matters have varying effects: Conservation and stability (e.g. lignans, tocopherols, tocotrienols), anti-inflammatory properties (triterpene alcohols), cholesterol-lowering (sterols), well tolerated occlusive effect on the skin (squalene). Information is provided in a clear and systematic fashion, including data on relevant chemical families and pertinent chemical structures. Also included is a thesaurus of English, Latin and French plant species names as well as 655 references to the scientific literature.

Pediatric and Adult Nutrition in Chronic Diseases, Developmental Disabilities, and Hereditary Metabolic Disorders Canola is one of the most important oilseed crops of the world, as its production over the last 10 years has grown much faster than any other source of edible vegetable oil. The short history of the food use of canola oil in Western countries has been marked by its GRAS (generally recognized as safe) accreditation by the USFDA (United States Food and Drug Administration) in 1985. Canola Oil is perhaps the only edible vegetable oil that by today’s standards is considered to be nutritionally well balanced. Furthermore, its protein meal is well balanced in its amino acid content and perhaps in the not too distant future may commercially be upgraded for human consumption. The present monograph reports the latest advancements in the production, chemistry, analyses, nutritional properties, and commercial processing of canola and rapeseed. Recent developments in the biotechnology of canola production and genetic alterations and improvements of seeds, new methods of analyses, and recent studies to upgrade the canola proteins are presented in 19 chapters. Extensive bibliographies provide the reader with an in-depth and thorough review resource in related areas. The monograph will be of interest to advanced undergraduate and graduate stu
Online Library Nutritional Evaluation Of Seed And Characterization Of

dents as well as researchers in universities, industries, and government laboratories. Food scientists, crop and agricultural engineers, chemists and biochemists, nutri tionists, and technologists as well as plant breeders will find it a valuable resource base in the latest trends and developments in canola research.

Rice Seed Health Dramatic changes in the attitudes toward human nutrition have taken place during the past decade. Food-related and medical professionals as well as consumers are now, more than ever before, aware of and concerned about diet, nutrition, and the beneficial and deleterious effects of food processing upon nutrients. The old saying "We are what we eat" is still relevant. Nutritious food will contribute greatly to consumers' good health and ultimately reduce medical bills. Food processing is essential to maintaining our food reserves from one harvest to another, thus letting us serve our daily meals regularly. If food processing is defined as including all treatments of foodstuffs from harvest to consumption, then more than 95% of our food may be considered as processed. In most cases, food processing and storage cause some reduction in the nutritional value of foods. Advances in food science and food technology have resulted in an increase in nutrient retention after processing. In addition, today's consumer better understands how to avoid excessive nutrient losses during food preparation. The information presented in this completely revised reference and textbook will help the reader to understand better the relationship between food processing and nutrient retention. The authors' scholarly contributions are greatly appreciated.

Oilseeds The report reviews the toxicity data on inherent natural toxicants in lupin seeds, especially quinolizidin alkaloids. Lupin seeds are increasingly used in the Nordic countries, partially substituting wheat flour in certain foods. An estimation of the risk by consuming foods containing lupin seeds in the Nordic countries and recommendations to better ensure the safe use of these seeds in foods are given.

Nutrition and Predictive Medicine

Preparation, Chemical and Nutritional Evaluation of Sunflower Seed Protein Centrates and Isolates The book serves as a major source of information on all the cultivated oilseeds and major tree borne and minor oilseeds grown globally. Composition, characteristics, properties and utility of different oilseeds and their constituents, namely, oil, protein, carbohydrates, minerals, vitamins and Phytochemical in food and non-food sectors including medicine has been covered in detail. The book also deals with post-harvest technology and processing of oilseeds to obtain good quality products like vegetable oil and oilcakes. The processing aspects like ghan, expeller, extrusion, solvent, and SC-CO2 extraction along with the refining of oils have been discussed. Oilseeds and their quality especially, the nutritional quality of oils, oilcakes, oleo-chemicals and preparation of edible products from groundnut, soybean sesame, sunflower, Niger and coconut have been discussed and presented in the book. Anti-nutrients, when present interfere with the digestion process as also the health of humans and animals. Hence methods of reduction/removal of anti-nutrients like phenolics, protease inhibitors, ricin, glucosinolates and aflatoxins etc. have also been covered in detail in the book. Evaluation of quality is important for understanding and utilization of any commodity. Keeping this aspect in view, methods of analysis of oil, protein, sugars, minerals, vitamins and anti-nutrients have been presented in the on procedures. This book is thus is a comprehensive coverage of all aspects of oilseeds and their quality. It will be highly useful to students, researchers, producers, processors and policy planners.

Legumes for Soil Health and Sustainable Management

Canola and Rapeseed

Nutritional Evaluation of Cereal Mutants The nutritional quality of a protein depends on the proportion of its amino acids-especially the essential amino acids-their physiological availability, and the specific requirements of the consumer. Availability varies and depends on protein source, interaction with other dietary components, and the consumer's age and physiological state. In many foods, especially those from plants, low levels of various essential amino acids limits their nutritive value. This is particularly important for cereals (which may be inadequate in the essential amino acids isoleucine, lysine, threonine, and tryptophan) and legumes (which are often poor sources of methionine). Moreover, these commodities are principle sources of protein for much of the earth's rapidly growing population. At the current annual growth rate of about 2 percent, the world population of about 4 billion will increase to 6.5 billion by the year 2000 and to 17 billion by the year 2050. Five hundred million people are presently estimated to suffer protein malnutrition, with about fifteen thousand daily deaths. The ratio of malnourished to adequately nourished will almost surely increase. For these
reasons, and especially in view of the limited availability of high quality (largely animal) protein to feed present and future populations, improvement of food and feed quality is especially important.

Antioxidants in Vegetables and Nuts - Properties and Health Benefits Legumes include many very important crop plants that contribute very critical protein to the diets of both humans and animals around the world. Their unique ability to fix atmospheric nitrogen in association with Rhizobia enriches soil fertility, and establishes the importance of their niche in agriculture. Divided into two volumes, this work presents an up-to-date analysis of in vitro and recombinant DNA technologies for the improvement of grain, forage and tree legumes. Volume 10A examines the current status and future prospects of challenges of the following: in vitro morphogenesis; biotic and abiotic stress tolerance; genomics; nitrogen fixation and utilization; nutritional improvement, and biodiversity of wild and tribal legumes. Volume 10B presents the current state and future prospects of in vitro regeneration and genetic transformation expression and stability of transgenes modification of traits in almost all the important legumes, for example: soybean; peanut; pea; french bean; chick pea; pigeon pea; cowpea; mung bean; black gram; azuki bean; lentil; Lathyrus; lupinus; Lotus spp; Medicago spp; Trifolium spp; Winged bean; Guar; and tree legumes for their improvement. Written by international experts, these volumes will be of great value to researchers, as well as graduate students and all those requiring an advanced level overview of the subject area.

Wild-type Food in Health Promotion and Disease Prevention In addition to being served as a fresh vegetable, tomato is also consumed in the form of various processed products, such as paste, juice, sauce, puree and ketchup. Generally, in processing these products, different by-products including peels, seeds and pulps are produced. The rational disposal of Tomato waste represents not only a resource problem but also an environmental and economic one for the Tomato Processing Industry. Tomato Processing By-Products: Sustainable Applications indicates the alternative sustainable solutions for the recovery of tomato processing by-products as a source for animal feed and valuable components as well as their possible approaches for value-added utilization in energy, environmental and agricultural applications. Aimed at agricultural or food engineers who work in the Tomato processing industry and are seeking to improve their by-products management by actively utilizing them in effective applications. Includes tomato processing by-products, their quantification and classification Approaches tomato waste for animal feeding Brings successful case study of tomato processing by-products valorization Sustainable Protein Sources Improvement of Nutritional Quality of Food Crops This book presents a cutting-edge, in-depth investigation into new methods of health promotion. It is one of the first books to focus on the role of omega-3 polyunsaturated fatty acids in unhealthy diets. The book also contains reviews of the economic benefits of novel health promotion and disease prevention methods. Leading experts present recent examples and clinical trials.

Biotechnological Utilization of Mangrove Resources Catalogue of Research Literature for Development: Food production and nutrition This series of meetings bring together experts working in this field of Science from throughout the world. A major feature of each conference session is an invited review, which outlines the advances that have been made in a particular area since the last meeting. A major factor that was considered at this meeting was the likely impact of plant genetic modification on the nutritional quality of their seeds for human and animal feeding. As an example already a number of legume species and rapeseed have been modified to improve the sulphur amino acid content of their seed and thus their protein quality. Besides the major grain legume species and rapeseed that had been discussed at previous meetings in this series number of crop products, as potential protein sources, for animal feeding, were considered for the first time. These included cottonseed meal, linseed meal, and sunflower seed meal. The potential of some new exotic crops from Mexico was also covered including Mexican species of the genus Lupinus and a Mexican plant from the same family as castor bean, which has a very high oil content but is usually toxic. Work from Cuba compared the nutritional characteristics of soybean with a range of tropical grain legume species, which have received little previous attention. A major change at this meeting was the greater consideration of the effects, both positive, and negative, of the consumption of these seeds for human nutrition. A major review on the development of allergenicity to legume seed in humans is included. There was also consideration of the potential role of antinutritional factors in
reducing the growth of various types of tumour cells. The presented papers also suggest that the consumption of legume seed in the diet can potentially reduce serum cholesterol levels. Overall from the 5 conference sessions there are 52 papers. Of these 7 are major invited reviews on the current state of research in this important area for human and animal feeding.

Nutritional Evaluation of Food Processing This book covers the nutritional and nutraceutical profiles of a wide range of popularly consumed vegetables and nuts. The first half of the book focuses on popular vegetables, and describes how higher vegetable consumption reduces the risk of diseases ranging from diabetes to osteoporosis, diseases of the gastrointestinal tract, cardiovascular diseases, autoimmune diseases and cancer. The book also includes an interesting section on the antioxidant potential of mushrooms. In turn, the second half discusses the nutritional value of various nuts. Nuts are nutrient-dense foods with complex matrices rich in unsaturated fats, high-quality protein, fiber, minerals, tocopherols, phytosterols and phenolics. The respective chapters illustrate how the consumption of nuts could ward off chronic diseases like hypertension, cancer, inflammation, oxidative stress, high blood pressure, coronary heart disease etc. In order to effectively promote vegetable and nut consumption, it is necessary to know and understand the nutritional and nutraceutical profiles of vegetables & nuts. Given its scope, the book will be of interest to students, researchers, food scientists, oleiculturists, dietitians and agricultural scientists alike. Those working in the vegetable and nut processing industries, horticultural departments and other agricultural departments will also find the comprehensive information relevant to their work.

Nutritional Improvement of Food and Feed Proteins "Packed with information that is useful on a daily basis. This book will be useful for all who care for children with disabilities or chronic disease." --Journal of Parenteral and Enteral Nutrition Food and nutrition studies are more relevant to the practice of medicine than ever before. As scientific understanding of these links has expanded over the last decade, the need for an authoritative reference has never been greater. This fully revised and updated edition of PEDIATRIC AND ADULT NUTRITION IN CHRONIC DISEASES, DEVELOPMENTAL DISABILITIES, AND HEREDITARY METABOLIC DISORDERS offers a comprehensive reference to the nutritional interventions for diseases across the lifespan. Comprising more than 60 topic-based chapters from leading figures in nutrition and medicine, this book is the most up-to-date work on diet as a symptom of, and therapy for, chronic, hereditary, and developmental disorders. Enriched with tables and charts that distill the latest recommendations for nutrient intake, physical activity, this third edition is a convenient and essential resource for busy clinicians and students in nutrition, dietetics, and medical specialties.

Tropical Grain Legume Bulletin; 8

Emerging Bioresources with Nutraceutical and Pharmaceutical Prospects

Isolation, Characterisation and Evaluation of Nutritional Quality of Barley Seed Proteins Nuts and dried fruits are part of our daily diet. They are consumed whole or as ingredients of many food products such as muffins, cereals, chocolates, energy bars, breads, and cookies, among others. Health Benefits of Nuts and Dried Fruits provides a comprehensive overview of the literature on the health benefits of nuts and dried fruits. The book summarizes the current state of knowledge in key research areas and provides ideas for future scientific research and product development. Nuts, a term that comprises tree nuts and peanuts, are highly nutritious, containing health-promoting macronutrients, micronutrients, vitamins, and bioactive phytochemicals; they are one of the edible foods with the highest content in antioxidants. The consumption of nuts is recognized for its health-promoting properties, which ranges from a consistent cholesterol-lowering effect in clinical trials to a robust association with reduced risk of cardiovascular disease and all-cause mortality in prospective studies. In spite of the high energy content of nuts, there is no evidence that their frequent consumption promotes obesity, and they may even help control it. Dried fruits, which serve as important healthful snacks worldwide, are nutritionally equivalent to fresh fruits while providing all of their bioactive components in concentrated form. While the evidence level concerning the health effects of dried fruits lags behind that on nuts, it suggests that individuals who consume dried fruits regularly have a lower risk of cardiovascular disease, obesity, and other non-communicable diseases. Main features of the book concerning nuts and dried fruits: • Provides detailed information on health effects • Highlights current regulation and health claims • Provides updated dietary recommendations • Describes nutrient absorption and metabolism • Discusses mechanisms implicated in the health effects Although this book is intended primarily as a reference, by comprehensively reviewing the current state of knowledge it can guide future research on the topic. Among others, food scientists, biochemists, nutritionists, health professionals, decision
makers, and regulatory agencies can draw much benefit from its contents. Hopefully, it will help in public health strategies to promote healthy aging and improve population wellbeing.

Science and Technology of Fibers in Food Systems Roselle: Production, Processing, Products and Biocomposites complies the latest findings on the production, processing, products and composites of the roselle plant. The book provides researchers with the latest information on its entire use, including fibers and fruit for any application. Subjects covered include environmental advantages and challenges, the plant as a renewable resource, economic issues such as the impact of biobased medicines, biodiesel, the current market for roselle products and regulations for food packaging materials. Sections include commentary from leading industrial and academic experts in the field who present cutting-edge research on roselle fiber for a variety of industries. By comprehensively covering the development and characterization of roselle fiber as a potential to replace conventional fiber made from petroleum-based polymers, this book is a must-have resource for anyone requiring up-to-date knowledge on the lifecycle of the roselle plant. Includes commentary from leading industrial and academic experts in the field who present cutting-edge research on roselle fiber for a variety of industries.

Comprehensively covers the development and characterization of roselle fiber as a potential to replace conventional fiber made from petroleum-based polymers.

Focuses on the development and characterization of roselle nanocellulose reinforced biopolymer composites.

Tomato Processing by-Products

Recent advances of research in antinutritional factors in legume seeds and oilseeds Nutritional Composition and Antioxidant Properties of Fruits and Vegetables provides an overview of the nutritional and anti-nutritional composition, antioxidant potential, and health benefits of a wide range of commonly consumed fruits and vegetables. The book presents a comprehensive overview on a variety of topics, including inflorescence, flowers and flower buds (broccoli, cauliflower, cabbage), bulb, stem and stalk (onion, celery, asparagus, celery), leaves (watercress, lettuce, spinach), fruit and seed (peppers, squash, tomato, eggplant, green beans), roots and tubers (red beet, carrots, radish), and fruits, such as citrus (orange, lemon, grapefruit), berries (blackberry, strawberry, lingonberry, bayberry, blueberry), melons (pumpkin, watermelon), and more. Each chapter, contributed by an international expert in the field, also discusses the factors influencing antioxidant content, such as genotype, environmental variation and agronomic conditions. Contains detailed information on nutritional and anti-nutritional composition for commonly consumed fruits and vegetables.

Presents recent epidemiological information on the health benefits of fresh produce.

Provides in-depth information about the antioxidant properties of a range of fruits and vegetables.

Roselle Nuts and Seeds in Health and Disease Prevention, Second Edition investigates the benefits of nuts and seeds in health and disease prevention using an organizational style that will provide easy-access to information that supports identifying treatment options and the development of symptom-specific functional foods. This book examines seeds and nuts as agents that affect metabolism and other health-related conditions and explores the impact of compositional differences between various seeds and nuts, including differences based on country of origin and processing technique. Finally, the book includes methods for the analysis of seed and nut-related compounds. Written for nutrition researchers, nutritionists, food scientists, government regulators of food, and students of agriculture, oils and feeds, nutrition and life sciences, this book is sure to be a welcomed resource. Identifies options and opportunities for improving health through the consumption of nut and seed products.

Provides easy access to information that supports the identification of treatment options.

Contains insights into health benefits that will assist in development of symptom-specific functional foods.

Examines seeds and nuts as agents that affect metabolism and other health-related conditions.

Explores the impact of compositional differences between various seeds and nuts, including differences based on country of origin and processing technique.

Includes methods for analysis of seed and nut-related compound.

Proceedings of the World Congress on Vegetable Protein Utilization in Human Foods and Animal Feedstuffs

Cold Pressed Oils

Fatty Acids in Foods and Their Health Implications In the context of climate change, pollution and food safety, the current challenge is to enhance legumes production to sustain the growing population needs by 2050. This is a daunting task because abiotic and biotic stresses are threatening the growth, survival and productivity of legumes. For
instance, the productivity of legumes is documented to be reduced by 14-88% by abiotic stresses. The co-occurrence of abiotic and biotic stresses under field conditions leads to interactive stress types, thus yielding positive or negative outcomes. Legumes react using antioxidant defense, osmoregulatory adjustments, hormonal regulations and molecular mechanisms to tolerate stress. Hence, improving legume productivity requires knowledge on the sensitivity, mechanisms and approaches of stress tolerance in legumes, in order to design new crops and alternative management systems. This book presents advances on bioactive compounds, applications, effect of various stresses and biotechnology-based stress tolerance mechanisms of legumes. This is our second volume on Legume Agriculture and Biotechnology, published in the series Sustainable Agriculture Reviews.

Nutritional Composition and Antioxidant Properties of Fruits and Vegetables This text provides comprehensive coverage of fibers used in food formulations, starting with the understanding of their basic chemical structure and how they are present and organized in the cell wall structure, their physicochemical and functional properties, their impact on the digestive process and their role and preventive action against various chronic diseases including colon cancer. The book focuses on traditional and new fiber rich sources, incorporating an integrated approach in terms of the technological and engineering processes used to obtain and incorporate them in traditional foods, plus their characterization, extraction and modification. The study of processing conditions including the chemical, physical and enzymatic processes of fiber extraction and modification are also covered, including traditional and emerging processing technologies, plus the application of fibers in the development of new products and processes. Science and Technology of Fibers in Food Systems integrates knowledge of fibers from their basic structural and property aspects and the applications of these ingredients to extraction process analysis, modification and feasibility for use at the industry level. The chapters incorporate the physiological aspects related to the consumption of fiber for prevention of serious diseases.

Legumes as Food Ingredient Legume crops provide a significant sources of plant-based proteins for humans. Grain legumes present outstanding nutritional and nutraceutical properties as sources of bioactive components with benefits in human health, while they are affordable food that contributes to achieving future food and feed security. Furthermore, they are major ingredients in the Mediterranean diet, playing a vital role in developing countries. Global food security requires a major re-focusing of plant sciences, crop improvement and production agronomy towards grain legumes (pulse crops) over coming decades, with intensive research to identify cultivars with improved grain characteristics, helping to develop novel legume-derived products (foods) adapted to today consumer preference. In this context, studies dealing with legume processing impact such as soaking, boiling, microwave cooking, germination, and fermentation among others, in their nutritional and anti-nutritional (i.e., food allergy) properties are of great interest in these future food developments. This Research Topic aims to bring together a collection of studies for a better understanding of current research in legume seed compounds functional properties to provide an updated and global vision of the importance of legumes in human health.

Evaluation of the nutritional potential of safflower (Carthamus Tinctorius L) Leaves, seed and cake after oil extraction to be used as animal feed

Improvement Strategies of Leguminosae Biotechnology Protein plays a critical role in human nutrition. Although animal-derived proteins constitute the majority of the protein we consume, plant-derived proteins can satisfy the same requirement with less environmental impact. Sustainable Protein Sources allows readers to understand how alternative proteins such as plant, fungal, algal, and insect protein can take the place of more costly and less efficient animal-based sources. Sustainable Protein Sources presents the various benefits of plant and alternative protein consumption, including those that benefit the environment, population, and consumer trends. The book presents chapter-by-chapter coverage of protein from various sources, including cereals and legumes, oilseeds, pseudocereals, fungi, algae, and insects. It assesses the nutrition, uses, functions, benefits, and challenges of each of these proteins. The book also explores opportunities to improve utilization and addresses everything from ways in which to increase consumer acceptability, to methods of improving the taste of products containing these proteins, to the ways in which policies can affect the use of plant-derived proteins. In addition, the book delves into food security and political issues which affect the type of crops that are cultivated and the sources of food proteins. The book concludes with required consumer choices such as dietary changes and future research ideas that necessitate vigorous debate for a sustainable planet. Introduces the need to shift current animal-derived protein sources to those that are more plant-based Presents a valuable compendium on plant and alternate protein sources covering land, water, and energy uses for each type of protein source Discusses nutritive values of each protein source and compares each alternate protein to more complete proteins Provides an overview of production, including processing, protein isolation, use cases, and functionality Presents solutions to challenges, along with taste modulation Focuses
on non-animal derived proteins Identifies paths and choices that require consumer and policymaker debate and action

Nutritional Evaluation of Honey Mesquite Pod and Seed (Prosopis Glandulosa) Cold Pressed Oils: Green Technology, Bioactive Compounds, Functionality, and Applications creates a multidisciplinary forum of discussion on recent advances in chemistry and the functionality of bioactive phytochemicals in lipids found in cold pressed oils. Chapters explore different cold pressed oil, focusing on cold press extraction and processing, composition, physicochemical characteristics, organoleptic attributes, nutritional quality, oxidative stability, food applications, and functional and health-promoting traits. Edited by a team of experts, the book brings a diversity of developments in food science to scientists, chemists, nutritionists, and students in nutrition, lipids chemistry and technology, agricultural science, pharmaceuticals, cosmetics, nutraceuticals and many other fields. Thoroughly explores novel and functional applications of cold pressed oils Shows the difference between bioactive compounds in cold pressed oils and oils extracted with other traditional methods Elucidates the stability of cold pressed oils in comparison with oils extracted using other traditional methods

Protein Byproducts 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.

Unsaponifiable Matter in Plant Seed Oils This book introduces some emerging functional foods that are natural resources with tremendous promise as nutraceuticals and pharmaceuticals. The author considers biodiversity and bioprospecting as a response to food security issues, drug-resistance, nutrition-poor diets and other problems, exploring the prospects of several under-utilized nutrients and bioactive repositories. Readers will discover biochemical makeups, validated health benefits, explanations of underlying mechanisms, hurdles in the path of popularity and promotion strategies. Chapters explore particular plants, seeds and fruits including the strawberry guava, opuntia fruits, the Carissa genus, grape seeds, quinoa and the milk thistle (Silybum), amongst others. They are considered as food sources where possible and from the perspective of the roles they can play in complementary and alternative medicine, such as in wound healing, antimicrobial activity, gastroprotective activity in treatment of cancers and as natural antioxidant sources. This rich compilation holds plausible solutions to a range of current issues and it endorses the much-needed goal of sustainability in terms of diet and drugs. It paves the path for further research and development on hitherto obscure natural resources. Scientists working in the area of food development, phytochemical and antioxidant analysis, bioprospecting of low-profile foods and in complementary and alternative medicine will find this work particularly valuable. It will also be of interest to the general reader with an interest in food science, food security, phytochemicals and functional food studies.

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