



**Chemical Engineering
New Titles**

CHEMICAL ENGINEERING METHODS AND TECHNOLOGY

Microfiltration

Principles, Process
and Applications



Youssef El Rayess
Editor

NOVA

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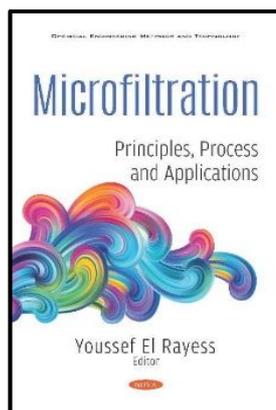
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Chemical Engineering Methods & Technology Series



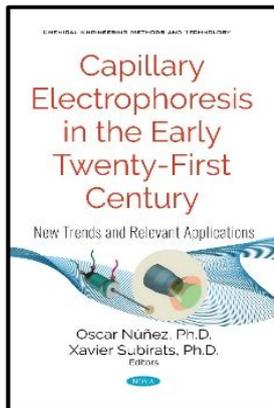
Microfiltration Principles, Process and Applications

Edited by Youssef El Rayess

This book titled “Microfiltration: Principle, Process and Applications” is formed of 6 chapters covering many research aspects on microfiltration. These aspects include reviews and original research dealing mainly with fouling and cleaning of microfiltration membranes. In Chapter 1, mechanisms of fouling and factors affecting the fouling are presented. Also, it deals with techniques that assist mitigation of membrane fouling that occurs in microfiltration. The aim of Chapter 2 was the modelling and optimization by artificial neural network and genetic algorithm of yeast suspensions turbulence promoter assisted cross-flow microfiltration in concentration operation mode.

Chapter 3 focuses on the principles, developments, implementation and application of microfiltration in wastewater treatment. In addition, the integration of microfiltration with other water and wastewater treatment technique is also included as well as the advantages and disadvantage of the microfiltration. The Chapter 4 objective is to introduce the most commonly used turbulence promoters’ types. Furthermore, congenial studies on the turbulence promoters’ application in the cross-flow MF regarding food industry streams and products are also presented within the chapter. In Chapter 5, the microfiltration process was used in order to obtain concentrated papaya (*Carica papaya* L.) pulp, evaluating the flux permeate from papaya treated pulp with enzyme pectinase and using different nominal mass molecular weights and different membranes materials. Chapter 6 discusses the performances and the quality of treated water of a Tunisian textile industry through a low-cost tubular ceramic membrane prepared by extrusion of a plastic paste prepared from clay powder mixed with organic additives and water.

PB 9781536163209 £134.99 October 2019 Nova Science Publishers 242 pages



Capillary Electrophoresis in the Early Twenty-First Century New Trends and Relevant Applications

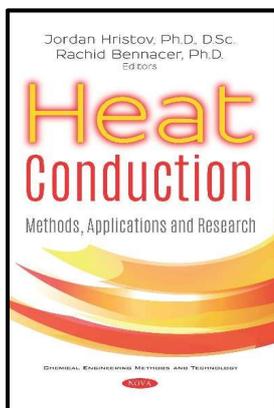
Edited by Oscar Núñez

Capillary electrophoresis (CE) comprises a family of related separation techniques in which an electric field is used to achieve the separation of components in a mixture. One of the key features of CE is the simplicity of the instrumentation required, and today, these techniques have become powerful analytical tools for high efficiency separation, and the identification of a variety of ionic and neutral compounds.

Moreover, the versatility of CE operational modes (capillary zone electrophoresis, micellar electrokinetic capillary chromatography, capillary electrochromatography, capillary isoelectric focusing, isotachopheresis, non-aqueous capillary electrophoresis, etc.) and detection systems (ultraviolet, fluorescence, amperometric, mass spectrometry...) make CE useful for applications in many fields such as environmental, food, pharmaceutical, and forensic analysis. The typical drawback of CE techniques, based on their low sensitivity when dealing with conventional UV-detection, due to their short detection pathways and the short sample volume introduced into the capillary, has been largely resolved not only by using more sensitive detectors like fluorescence, amperometric, or mass spectrometry, but by the employment of both off-line and on-line enrichment procedures.

The aim of this present book is to address the state-of-the art of capillary electrophoresis techniques within this early twenty-first century, by reviewing new trends and the most relevant applications described in the literature. Uses in fields such as food, environmental, forensic and biological analysis are addressed by means of relevant application. The scope of this book is intentionally broad and is aimed at worldwide analytical laboratories, both public and private, at academic institutions, as well as researchers.

HB 9781536152234 £193.99 May 2019 Nova Science Publishers 276 pages



Heat Conduction Methods, Applications and Research

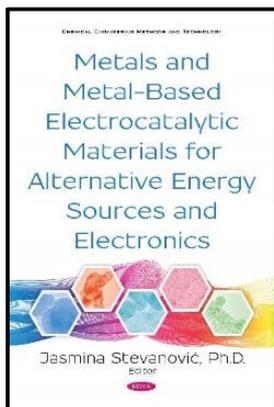
Edited by Jordan Hristov, Rachid Bennacer

Heat conduction plays an important role in energy transfer at the macro, micro and nano scales. This book collates research results developed by scientists from different countries but with common research interest in the modelling of heat conduction problems. The results reported encompass heat conduction problems related to the Stefan problem, phase change materials related to energy consumption in buildings, the porous media problem with Bingham plastic fluids, thermosolutal convection, rewetting problems and fractional models with singular and non-singular kernels. The variety of analytical and numerical techniques used includes the classical heat-balance integral method in its refined version, double-integration technique and variational formulation applied to the integer-order and fractional models with memories.

This book cannot present the entire rich area of problems related to heat conduction, but allows readers to see some new trends and approaches in the modelling technologies. In this context, the fractional models with singular and non-singular kernels and the development of the integration techniques related to the integral-balance approach form fresh fluxes of ideas to this classical engineering area of research.

The book is oriented to researchers, masters and PhD students involved in heat conduction problems with a variety of applications and could serve as a rich reference source and a collection of texts provoking new ideas.

PB 9781536146738 £134.99 February 2019 Nova Science Publishers 160 pages



Metals and Metal-Based Electrocatalytic Materials for Alternative Energy Sources and Electronics

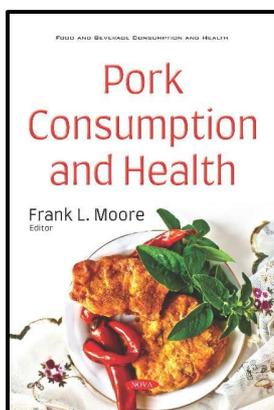
Edited by Jasmina Stevanovic

The important role of metals, their oxides and catalytically-interactive supports in contemporary investigations related to rational construction of next-generation devices as alternative energy sources and hi-tech electronics is ambitiously presented throughout this book. The topics involve:

- Carbonaceous and non-typical platinum-based nanostructured electrode materials as promising candidates for anodic reactions in low-temperature fuel cells.
- Ruthenium oxide as electroactive material, presented through its innovative synthesis routes involving microwave heating and ultrasonic spray pyrolysis, with the focus on its performances as an electrochemical supercapacitor, but also as a part of multicomponent electrode coating in electrocatalysis of chlorine and oxygen evolution.
- Alkaline water electrolysis as the simplest method for hydrogen production especially when using renewable energy sources, offering the advantage of simplicity and environmentally clean technology with zero emission of greenhouse gases.
- New frontiers in electroconductive composite materials and biopolymers combined with noble metal nanoparticles that can be used in nanoelectronics and medical nanotechnologies.
- The possibilities for the operational improvement of an aluminum-air battery presented through alternative modifications of an Al-anode by alloying with magnesium and electromagnetic bulk structure homogenization.
- The improvements of copper-based materials as well as the research toward sustainable production of copper itself as an important component for further development of electronic devices.

HB 9781536146639 £193.99 February 2019 Nova Science Publishers 542 pages

Food & Beverage Consumption & Health Series



Pork Consumption and Health

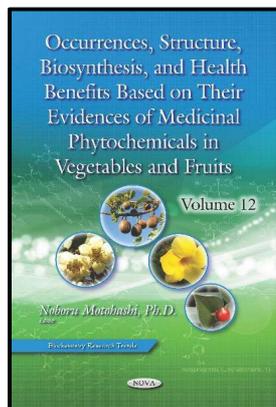
Edited by Frank L. Moore

In this compilation, the authors provide an overview of the existing literature on the content of nine most abundant minerals (potassium – K, phosphorous – P, sodium – Na, magnesium – Mg, calcium – Ca, zinc – Zn, iron – Fe, copper – Cu and manganese – Mn) in major raw and cooked pork meat cuts.

The ingestion of raw or undercooked pork poses a public health risk, since pork is the main transmitter of parasites, which include the protozoa *Toxoplasma gondii* and the helminths *Trichinella spiralis* and *Taenia solium*. These three 'T' porkborne parasites have been responsible for most of the porkborne illnesses throughout history, and they are still endemic and therefore an important public-health concern.

In the concluding study, Spearman's correlation coefficient was used to study the relationship salmonellosis and explanatory variables. Second, a multilevel linear regression analysis was carried out with two levels: region, occidental and oriental, European countries, and climate. Additionally, Stata®14 version was used in the statistical analysis.

PB 9781536149913 £68.99 February 2019 Nova Science Publishers 101 pages



Occurrences, Structure, Biosynthesis, and Health Benefits Based on Their Evidences of Medicinal Phytochemicals in Vegetables and Fruits Volume 12

Edited by Noboru Motohashi

Summary of these eight titles is made as follows: Chapter 1: Ginkgo biloba has long been used as a folklore medicine in China, India and these neighboring countries. Ginkgo biloba contains diverse phytochemicals such as terpene trilactones (bilobalide and ginkgolides A, B, C and J), flavonol glycosides, biflavones, proanthocyanidins, alkylphenols, simple phenolic acids, 6-hydroxykynurenic acid, 4-O-methylpyridoxine and polyphenols.

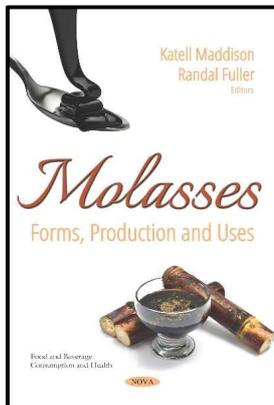
Gencholinic acid in ginkgo nuts showed very limited cytotoxicity and inhibits human immunodeficiency virus (HIV) protease activity to effectively suppress HIV infection; Chapter 2: Ganoderma lucidum (G. lucidum) (Rei-shi) mycelia (MAK) can be expected to prevent or alleviate organ damage as a functional food; Chapter 3: Water soluble carotenoids of yellow plant pigment in saffron and gardenia are mainly crocetin (1) and its glycosyl ester. crocetin-MGE (3) was rapidly absorbed.

Crocetin-MGE (3) is rapidly and efficiently absorbed as such and is metabolized to crocetin (1); Chapter 4: Function of 3'-epilutein (3) in total xanthophyll feeding orally in rats has been evaluated. As a result, the dose-corrected C_{max} and AUC_{0-24h} of (3R,3'R,6'R)-lutein (1) appeared to be doubled in presence of 3'-epilutein (3).; Chapter 5: Green tea was examined for bilateral ovariectomized (estrogen deficient) postmenopausal rat model to affect memory, learning and cognition. Green tea showed to provide neuroprotection, and probably support neurogenesis for human health, from the perspective of histopathology; Chapter 6: Daily consumption of fruits is essential to have a daily healthy life.

However, it is hard to say that they are taking enough fruits because of expensive fruit, and their consciousness of health to their fruits. However, regular fruit intake is known to reduce the incidence of lifestyle diseases such as cardiovascular disease, hypertension, diabetes and so on. For this reason, the authors tried to prevent these lifestyle diseases by low cost unusual fruits in Africa; Chapter 7: Three kinds of vegetables inhabiting sub-Saharan Africa (SSA) were selected as plant-derived functional ingredients. As a result, three uncommon vegetables showed health benefits against measles, yawning, conjunctivitis, hypertension, liver dysfunction, ocular pain, ear pain, breast cancer and other diseases; Chapter 8: The fruit of the Annonacea family has been used as a folk medicine. The main functional ingredient in Annonacea is acetogenin and its analogs.

Acetogenins have been known for a wide range of effects such as antitumor action, antiparasitic action, antibacterial insecticidal action, immunosuppressive action and so on. These diverse effects of acetogenins have been suggested to be promising for the development of new drugs to treat various diseases such as lifestyle diseases.

HB 9781536153378 £163.99 August 2019 Nova Science Publishers 300 pages



Molasses

Forms, Production and Uses

Edited by Katell Maddison, Randal Fuller

Molasses is obtained as a residue of the sugar industry. The major components of molasses are sucrose, glucose and fructose. In *Molasses: Forms, Production and Uses*, a study is presented wherein polyurethane foams were prepared using the hydroxyl group of mono- and disaccharides as a reaction site for urethane synthesis. Molasses was dissolved in polyethylene glycol and polyols with various molasses contents were prepared.

The following work contributes to the evaluation of processing technology and the quality characteristics of traditionally made carob molasses through a survey in Tunisia. Carob molasses, known locally as “Rub El Kharroub”, is produced mainly by women using an artisanal process carried out with domestic equipment.

Considering that molasses is produced at about 2–5% of the starting raw material, the authors suggest that depending on the raw material condition and applied processing operations, considerable amounts of sucrose can be recovered and an increase in the efficiency of the sugar factory may be achieved.

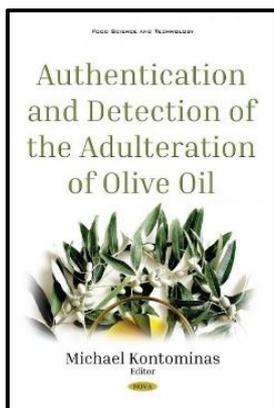
Following this, the authors review the state of knowledge on the production, chemical composition and uses of sugar cane molasses in animal feeding in Cameroon and briefly examine its other uses. In this country, sugar cane molasses, the main sub-product of sugar industries, is mainly produced by the sugar company in Cameroon.

The authors go on to review the latest advances on the potential of molasses as a source of functional ingredients as well as its application in various food products such as meat, vegetables and fruit. Molasses may have some other valuable functions such as shelf-life improvement, enhancement of leavening activity and buffering capacity.

Lastly, an assessment was made regarding methane production from glycerin digestion and glycerin/molasses co-digestion under thermophilic conditions in a mechanically stirred anaerobic reactor, operated in sequencing batch and fed-batch.

HB 9781536147032 £163.99 February 2019 Nova Science Publishers 244 pages

Food Science & Technology Series

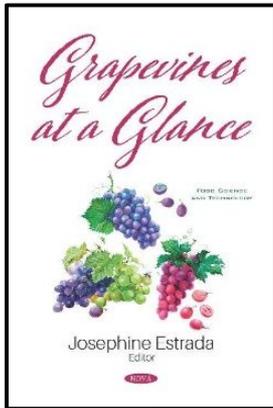


Authentication and Detection of Adulteration of Olive Oil

Edited by Michael Kontominas

This deals with the subjects of olive oil authentication, characterization, traceability, classification and adulteration with plant and seed oils of inferior quality and price. It focuses on conventional and instrumental methods of analysis including GC, HPLC, GC/MS, HPLC/MS, ICP, IRMS, NMR, Fluorescence and IR Spectroscopy, Thermal and DNA analysis used to determine authenticity and detect olive oil adulteration.

HB 9781536145960 £193.99 January 2019 Nova Science Publishers 451 pages



Grapevines at a Glance

Edited by Josephine Estrada

Grapevines at a Glance first presents the results of a morphological and genetic characterization, as well as chemical characterization, of some of the most important indigenous grapevine varieties in the central Balkan, such as: Vranac, Krstač, Smederevka, Prokupac, Žilavka, Plavac Mali, and Istrian Malvasia.

Following this, a characterization of the Prokupac variety of grape is presented by means of ampelographic and molecular analysis, as well as chemical characteristics.

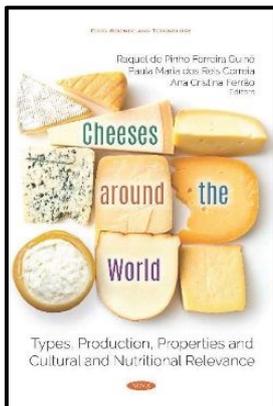
The authors investigate the efficiency of near infrared reflectance spectroscopy scanning to detect differences in the chemical composition, gross energy, in vitro apparent digestibility and relative feed value of leaves and green pruning residues of eleven red grapevine cultivars and five white grapevine cultivars.

Additionally, it is determined that the nutritive value for ruminants and the content of bioactive compounds and related antioxidant capacity for humans depends on the grapevine cultivars. These leaves are rich in bioactive compounds and might provide a significant source of dietary bioaccessible polyphenols with high antioxidant capacity.

The differences between the chemical composition, gross energy and in vitro apparent digestibility of the grapevine and grapevine leaves of five varieties of red grapevine and of five varieties of white grapevine are explored.

The closing study focuses on how microbial communities associated with vineyards points to the existence of patterns of microbial distribution across viticultural areas, suggesting a microbiological component of the terroir concept.

PB 9781536163995 £79.99 October 2019 Nova Science Publishers 214 pages



Cheeses around the World

Types, Production, Properties and Cultural and Nutritional Relevance

Edited by Raquel de Pinho Ferreira Guiné, Paula Maria dos Reis Correia, Ana Cristina Ferrão

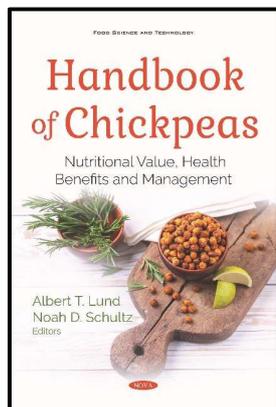
Cheese is an ancient food product produced worldwide and globally appreciated. The world cheese trade is of great importance economically, both at the industrial level, as well as when it comes to traditional cheeses, which provide income for rural populations. The diversity in cheese technology is enormous, varying in the type of milk used, the production operations, the lactic cultures, the maturation times and conditions, among other aspects. Cheese products, therefore, have a wide range of characteristics in terms of taste, flavour, texture, colour, shape, or size. Unlike cheese produced at the industrial scale, traditional cheeses are imprinted with a social and cultural heritage that makes them unique.

The first part of this book contains chapters dedicated to the economic and social importance of cheese, the nutritional aspects and health effects, cheese technology and characteristics, as well as yeast microflora. Further chapters contain details about the traditional cheeses in different parts of the world, including European, African, or American countries, namely Brazil, Burkina Faso, Croatia, Greece, Hungary, Italy, Latvia, Lithuania, Mexico, Poland, Portugal, Romania, Serbia, and Slovenia.

This book contains a diverse set of contributions that will enlighten the readers about many types of cheeses from different countries around the world. It is useful for professionals, including professors, researchers, or those working in the cheese industry, as well as for students or even the general public.

The subjects addressed in the book make it interesting for professionals in the scientific domains of food science and technology, nutrition, gastronomy, sociology, and history

HB 9781536154184 £226.99 May 2019 Nova Science Publishers 486 pages



Handbook of Chickpeas **Nutritional Value, Health Benefits and Management**

Edited by Albert T. Lund

Legumes are an important source of proteins, carbohydrates, vitamins, minerals, and dietary fiber. Chickpea is one of the most consumed legumes in the world. It is an affordable food product for people who cannot get animal protein, giving them a nutritious substitute in their diet. As such, *Handbook of Chickpeas: Nutritional Value, Health Benefits and Management* discusses the current information regarding the nutritional value of chickpea.

Following this, the authors highlight the nutritional value of domesticated Kabuli chickpeas used in different forms, as well as the impact of different factors which regulate the nutritional value. The authors then explore the nutritional value, health benefits, and uses of desi chickpeas in comparison to Kabuli chickpeas.

Current information is presented regarding the amino acid profile and nutritional protein quality in raw and processed chickpea seeds and flours, the health or nutraceutical effects of chickpea protein isolates, hydrolysates or bioactive peptides and the generation of selenized proteins during sprouting and their antioxidant and anticancer potential.

The demand for gluten-free products is increasing since the prevalence of gluten-related disorders is rising. As such, chickpea is studied in the context of replacing wheat/gluten in some types of gluten-free food to improve the quality of the gluten-free diet.

Chickpea is also studied as a dairy-product substitute since it represents a good source of protein, iron, and fiber.

Chickpeas are composed of interesting amounts of protein, fibers, iron, zinc, and others, arousing interest by vegetarians. Therefore, the use of chickpeas is studied as an important ingredient in a vegetarian diet to contribute to nutritional quality.

The authors present the way in which legume proteins can be used to fortify some foods to increase nutritional value and balance amino acid content. The most important of these foods are bakery products.

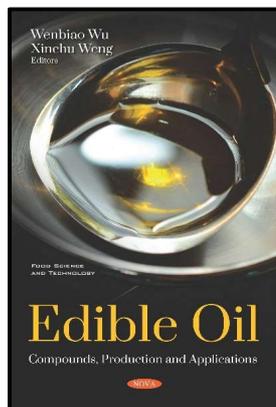
Current information related to starch digestion and glycemic index of raw/processed chickpea flours and starch isolates, undigested carbohydrates content in raw/processed chickpea and health effects of chickpea digestible and undigestible carbohydrates is also presented.

Chickpea seeds are vulnerable, both in the field and in storage conditions to attack by several insect pests of economic importance, whereby infested grains lose their viability. Therefore, basic steps in order to control insects in warehouse or processing plants that must be followed are: monitoring for infestation detection, identification of the problem and insect control measures.

Traditionally, preferred control options are carbamate and pyrethroid sprays as soon as the threshold has been reached, as insects grow rapidly and a few days delay in spraying can result in major crop damage and increased difficulty in control.

The final study proposes that chickpea protease inhibitor concentrates exerted anti-genotoxic effects on LNCaP cells, supporting previous findings that Bowman-Birk inhibitors and protease inhibitors have a protective effect on oxidative damage. Chickpea may therefore play a role in prostate cancer prevention, however, further research is needed to fully understand the molecular mechanisms involved.

HB 9781536163742 £193.99 October 2019 Nova Science Publishers 348 pages



Edible Oil Compounds, Production and Applications

Edited by Wenbiao Wu, Xinchu Weng

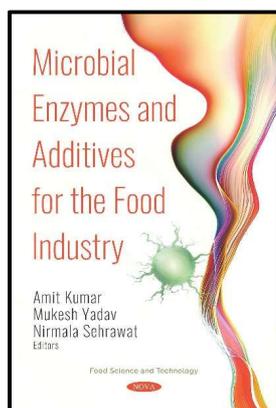
This book intends to review the current status of the systematic knowledge related to the chemical composition, production and applications of edible oils. It is written principally based on the data that have been published in scientific journals, academically specialized books or internet websites and author's secondary innovation.

The knowledge introduced in the book should be very useful for farmers or oilseeds processing enterprises, or scientists who are interested in developing their sustainable resources and their processing technology. They are also worthwhile as reference materials for training students intending to work with oilseeds production or processing industry.

The central scope of this book is associated with the review of recent research results or developments and future tendency with respect to the chemical components, production and applications of edible oils. More than 40 species of oil seeds or raw materials have high oil content. Oils from these raw materials are edible. In addition to providing essential fatty acids and energy, all edible oils also contain fat-soluble vitamins such as vitamin E and carotenoids (pro-vitamin A) and other functional compounds such as sterols, phospholipids, squalene, etc. which are reviewed in this book. Some particular species of edible oils also contain unique functional compounds, which are not present in other kinds of edible oils.

The world's production of edible oils, their processing technology and their application in the food industry or other industries are also reviewed in this book. Especially, with respect to the extraction of edible oils, an advanced aqueous method recently published has achieved a high recovery rate of oils with high quality, which has a different mechanism as compared with the traditional aqueous method using large quantities of water. The de-oiled residue produced by this aqueous method can be applied to the food industry. This kind of aqueous method has the potential of knocking other methods out and becoming a classic procedure for the commercial production of edible oils in the future. The first chapter of this book is about the overview of edible oils while the following chapters review major specific edible oils that are popularly produced and consumed in the world.

HB 9781536155792 £134.99 May 2019 Nova Science Publishers 258 pages



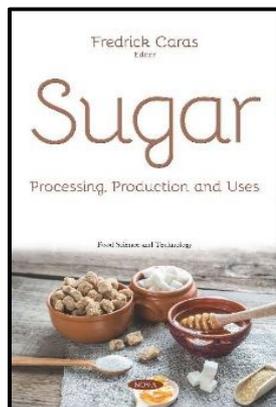
Microbial Enzymes and Additives for the Food Industry

Edited by Amit Kumar, Mukesh Yadav, Nirmala Sehrawat

The growing food industry is currently employing a large number of microbial products. Microbial products are of biological origin and are considered safe as compared to synthetic and chemical formulations. Microbial products are used in the processing or manufacturing of a variety of food products. These days, fermented foods have become very common. Enzymes, pigments, and organic acids of microbial origin are common in the food industry. Demand for microbial products and metabolites are continuously increasing, and microbial products are an area of commercial interest for the food biotechnology and microbial biotechnology industries.

This book covers microbial enzymes along with their utilization in the food industry. Important enzymes including amylase, inulinase, pullulanase, protease, aspartase, naringinase, cellulose, xylanase, pectinase, and asparaginase have been discussed, along with their potent applications in the food industry. Also, microbial polysaccharides, organic acids, and pigments of microbial origin have been discussed. This book will provide important insight regarding microbial enzymes and additives for the food industry now and in the future. This text will be helpful for graduate, post graduate students, researchers, and industry professionals, extensively engaged in the area of food science and technology, food biotechnology, and industrial biotechnology.

HB 9781536151015 £193.99 April 2019 Nova Science Publishers 307 pages



Sugar **Processing, Production and Uses**

Edited by Fredrick Caras

A variety of analytical techniques have been developed to determine the content of sugars in honey, such as spectroscopic, chromatographic, and electrochemical ones. In this collection, the authors present the cross-section of results on sugar composition, obtained by contemporary analytical methods used in honey authentication.

The following chapter addresses how sago fronds can be used to produce sugar, which contains cellobiose and glucose as the main sugars at about 10 g/L and 5 g/L, respectively. SFS has been used as the complete fermentation medium for the production of L-lactic acid using *L. lactis* IO-1 without the need for further amendment.

Next, the authors address the impact of processing on the physicochemical characteristics (moisture, pH, acidity, color, ash, polarization, absorbance at 420 nm and melting point) and on elemental composition of brown sugar produced by distinct brands and different lots of each brand. The variability on the samples evaluated for these characteristics showed that there is no quality control in the production of this food and that the processing has a great influence on the composition of the brown sugar. Thus, the standardization of processing and production stages is important for a wider application of this sugar as an ingredient in the food industry as well as for providing to the consumer a better quality product.

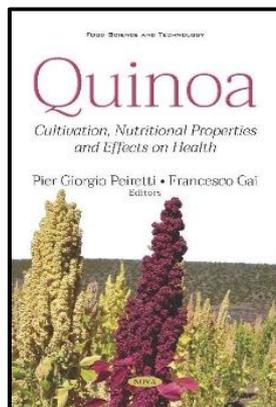
The typical process of producing solid sugar from sugarcane and mapping by-products and residues that are generated at each stage is presented. By-products are characterized and the technologies prominent in energy reuse are addressed.

Recent studies, applications, trends, challenges and constraints for the future use of sucrose and sucrochemistry derivatives are also discussed. This represents a diversification-promising productive concept of green organic chemistry, based on an accessible, low-priced, ecological and renewable source, which stands in the short and long terms as the best opportunity to compete economically with petrochemicals. In addition, several factors related to the sustainability production of sugar as a raw material, that include innovative production processes, natural and artificial substitute sweeteners, geopolitics, medical research and new end uses are discussed.

The concluding work seeks to examine the changes in the properties of elastomeric compounds as a consequence of the change of conventional additives such as zinc oxide and stearic acid by sugar cane bagasse, a green option for obtaining environmentally friendly elastomeric compounds.

Finally, nutritional implications of quinoa intake have been revised in Chapter Twelve.

PB 9781536153965 £134.99 May 2019 Nova Science Publishers 177 pages



Quinoa

Cultivation, Nutritional Properties and Effects on Health

Edited by Pier Giorgio Peiretti, Francesco Gai

Quinoa (*Chenopodium quinoa* Willd) is a pseudocereal of Andean origin that is becoming more and more popular in Europe, Asia and the United States of America because it is a good source of different nutrients, rich in antioxidant compounds and it offers an alternative to classical cereals in celiac diet because its seeds are gluten-free. Concerning its employment in food application, quinoa-derived products have been successfully employed in the preparation of different foods as fat/cream substitutes and to enhance the quality of baked foods. This book aims to review recent advances in the quinoa plant cultivation as well as the nutritional properties and effects on human health of quinoa-derived products.

Chapter One focuses on the morphophenological evaluation of different quinoa accessions collected all over the world and their agronomical performances tested both in the experimental field and open field trials.

In Chapter Two, the authors provide a description of the phenology, made on three different growing seasons, of a wide group of quinoa varieties, collected in different environments, in field conditions at the Peruvian central coast.

Chapter Three evaluates the antioxidative capacity and phenolic compounds content in the aerial part of the quinoa plant during its growth cycle in six progressive morphological stages from the early vegetative to the grain fill stage.

In Chapter Four, the authors determined the nutritional value and content of some bioactive compounds in different quinoa (*Chenopodium quinoa* Willd.), kañiwa (*Chenopodium pallidicaule* Aellen) and kiwicha (*Amaranthus caudatus* L.) ecotypes collected in Peru. Chapter Five describes the potential use of quinoa seed and plant in animal nutrition.

The authors of Chapter Six described the employment of the fermentation process to improve technological, nutritional and sensory quality of quinoa in order to obtain the fortification of conventional or novel foods.

The aim of chapter seven is to review the available studies on the use of quinoa as a bread making ingredient.

In Chapter Eight, the authors examined the quality characteristics of cereal-based foods enriched with quinoa flour and inulin with a different degree of polymerization in order to obtain new fortified breads and pasta with lowering glicemic index effect.

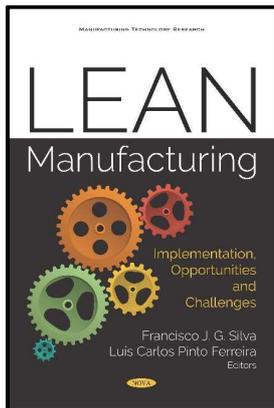
Chapter Nine evaluates studies carried out to develop healthier gluten-free products, considering sensory and technological aspects of quality to help promoting the quality of life for people who need to follow a gluten-free diet.

Chapter Ten critically reviews studies on the use of quinoa as a milk substitute on dairy products since it presents a good source of protein with a low glyceic index.

In Chapter Eleven authors proposed a novel icing system based on the use of an aqueous/ethanolic saponin-free quinoa extract to obtain improvement in the quality of both lean and fatty fish species during commercialization under chilled conditions.

Finally, nutritional implications of quinoa intake have been revised in Chapter Twelve.

HB 9781536150612 £193.99 May 2019 Nova Science Publishers 328 pages



Lean Manufacturing Implementation, Opportunities and Challenges

Edited by Francisco J. G. Silva, Luís Carlos Pinto Ferreira

The paradigm of manufacturing is undergoing a major evolution throughout the world. The use of computers, the Internet and new challenges related to the Industry 4.0 have changed the way we engineer and manufacture products. Improving production with Lean Thinking is an evolution of a traditional approach in order to improve its processes to remain competitive in the global market.

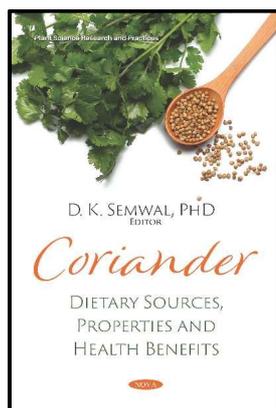
Lean Manufacturing is a multidimensional approach that embraces a wide variety of management practices in a unified system. These practices contain, quality systems, team work, and supplier management, among others. Nowadays, other practices have been adopted such as human factors and ergonomics.

This book presents contributions of Lean Manufacturing applications in the world development and is intended to provide a comprehensive view of issues related to this area, with a specific focus on lean engineering principles; it is full of practical production examples of how Lean Thinking can be applied effectively to production systems.

This work was conceptualized for an audience of graduate students mainly; however, it can also be consulted by engineers and company managers who seek state-of-the-art applications on Lean Manufacturing within a wide diversity of scenarios and conditions.

The book, organized into 17 chapters, is intended to be an excellent source for dissemination of applied researches, lean concepts, and practices that have been successfully applied in the developing world domain. The book is also an excellent example of academy purpose with collaboration between different institutions from different countries that provide a global approach.

HB 9781536157253 £226.99 July 2019 Nova Science Publishers 478 pages



Coriander

Dietary Sources, Properties and Health Benefits

Edited by D. K. Semwal

The present book titled “Coriander: Dietary Sources, Properties and Health Benefits” consists of valuable information about the coriander plant. The contents provided in this book are the contribution of many authors belonging to different regions. The knowledge based on the traditional medicinal importance and scientific studies of *Coriandrum sativum* is well described in this reference book. In addition to students and academicians, scientists will also benefit from the information given in this book.

The first chapter of the book describes the history, cultivation, plant characteristics, botanical classification, nutritional profile, phytochemical content, proximate composition, applications, medicinal and pharmacological properties of coriander leaf and seeds. Nutritional value together with the descriptive phytochemical profile and other applications of the coriander plant have been incorporated in this chapter.

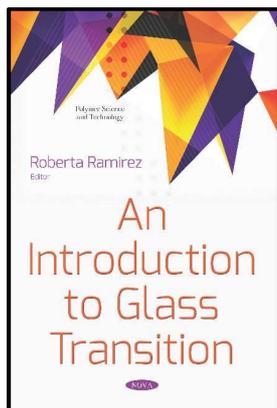
The second chapter focuses on the drying operation applied to coriander and the evaluation of the dried product’s characteristics and to what extent they are affected as compared to the fresh herb. The chapter also describes composition of raw coriander. In addition, various drying methods including vacuum, sun, microwave, freeze and supercritical carbon dioxide are given in detail.

The antioxidant and antimicrobial activity of different parts of the plant are provided in chapter 3 whereas different biotechnological approaches including *in vitro* culture to improve the cultivation of the plant are given in chapter 4, which also describes its health benefits.

A detailed phytochemistry including various extraction methods and their optimization is described in chapter 5. Polyphenolic compounds of coriander, as well as their health benefits, are given in chapter 6. In addition, it provides a phytochemical report on different parts of the plant. The chapter also reports a comprehensive knowledge of the traditional uses and pharmacology of coriander.

The last chapter of this book reports the composition and health benefits of coriander oil together with other applications. This chapter mainly focuses on the antimicrobial activity of essential oil obtained from seeds as well as from the leaves. The information describing the effect of fertilizers on the cultivation of this important plant is also included in this chapter. Overall, the book covers almost all the important areas of research.

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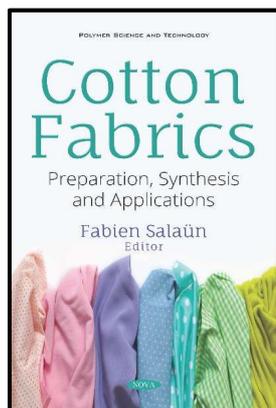
An Introduction to Glass Transition

Edited by Roberta Ramirez

An Introduction to Glass Transition opens with a comparison of entropy function of temperature dependence with configurational entropy, which was published by various authors and found almost the same temperature dependence with overlap. From the dependence of the logarithm of configurational entropy vs. the logarithm of temperature, the authors suggest that it is possible to successfully predict the relations between the values of m for different glass formers. Following this, microscopic local dynamics were analyzed by way of atomistic molecular dynamics simulations through the conformational transition behavior across a wide range of temperatures. The glass transition temperature may be predicted through the intersection of separate temperature dependences. Such local dynamics were found to become gradually heterogeneous when the temperature went down close to the glassy state.

The closing chapter provides a brief summary of the studies relevant to glass transitions in well-defined lipids systems such as anhydrous and/or water mixed systems. Then, some current problems and future problems are described.

PB 9781536157062 £79.99 June 2019 Nova Science Publishers 167 pages



Cotton Fabrics

Preparation, Synthesis and Applications

Salaün Fabien

Written by a group of international experts, this book provides a comprehensive analysis of the main scientific and technological advances that ensure the continued functionality of cellulosic textile supports. It begins with a discussion on the chemical and physical structure of cotton and its different properties and provides a review of the main vancées regarding textile surface modification. The second chapter is devoted to the use of cotton supports in comfort, and more specifically the importance of the textile structure for the management of heat and mass transfers.

These different concepts are discussed from the description of recent models applied in this field of expertise. The third chapter is dedicated to the fire retardant properties of textile substrates, with a more specific focus on textile finishing treatments to improve this type of surface functionality. Finally, the last chapter is oriented towards the chemical grafting of microcapsules from the DOPA, which currently constitutes a possible new application path in the textile field. This book covers a wide range of textile finishing treatments for cotton, allowing the reader to learn about new technologies in this field.

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D. K. SEMWAL, PHD
EDITOR

Coriander

DIETARY SOURCES,
PROPERTIES AND
HEALTH BENEFITS



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