

Handbook Of Milk Composition Food Science And Technology

Food processing is the step of the food chain that principally affects a food's physical or biochemical properties, along with determining the safety and shelf life of the product. This book provides a comprehensive overview of innovations in non-thermal technologies specifically for fluid foods, recognized for their high bioavailability of macronutrients and micronutrients. Considerable resources and expertise has been devoted to the processing of safe and wholesome foods. Non-thermal technologies have been developed as an alternative to thermal processing, while still meeting required safety or shelf-life demands and minimising the effects on its nutritional and quality attributes. Examines non-thermal processing techniques specifically applied to fluid foods Includes methods for mathematically evaluating each technique Addresses global regulatory requirements for fluid foods Provides recommendations and opportunities for various safety-related issues

Traditionally a source of nutrition, proteins are also added to foods for their ability to form gels and stabilise emulsions, among other properties. The range of specialised protein ingredients used in foods is increasing. Handbook of food proteins provides an authoritative overview of the characteristics, functionalities and applications of different proteins of importance to the food industry in one convenient volume. The introductory chapter provides an overview of proteins and their uses in foods. The following chapters each focus on a particular protein ingredient or group of ingredients covering their origins, production, properties and applications. The proteins discussed are caseins, whey proteins, gelatin and other meat-derived protein ingredients, seafood proteins, egg proteins, soy proteins, pea and other legume proteins, mycoprotein, wheat gluten, canola and other oilseed proteins, algal proteins and potato protein. A chapter on texturised vegetable proteins completes the volume. Innovative products and potential methods for improving nutrition and diet using these proteins are described. With its distinguished editors and international team of expert contributors Handbook of food proteins is an invaluable reference tool for professionals using food protein ingredients for both food and other applications. An authoritative overview of the characteristics, functionalities and applications of different proteins of importance to the food industry Chapters each focus on a particular protein ingredient or group of ingredients Innovative products and potential methods for improving nutrition and diet using proteins is also described

FROM THE PREFACE: Fortunately, chemistry--the root of all life processes--is becoming better understood and more accessible. A strong synergism between the chemical, agricultural, and related sciences is highly desirable. This handbook attempts to provide in easily accessible detail up-to-date information relevant to the stability of foods and beverages. Highly qualified scientists have compiled an extraordinary amount of data on the chemical, biochemical, and microbiological stability, along with sensory aspects, of selected foods and beverages. These data have been distilled and are presented mostly in tabular form, with a minimum of commentary whenever possible.****A total of 17 chapters (10 on food, 7 on beverages) by renowned experts in their particular fields from the United States, Europe, and Japan present a wealth of food and beverage stability information in handbook format. In particular, the chapters on fish and shellfish, cheese, and meat are remarkable in presenting data not readily available in an easily digestible form.****This handbook, encompassing as it does aging, shelf life, and stability--in short, the knowledge necessary to ensure preservation of our food supply--should help to bring about the above-mentioned synergism between chemical, agricultural, and related sciences. It is expected to fill a need, especially through the convenience of its tabular presentations. A valuable reference book containing useful information for food scientists and technologists. As the application of science to world food supply needs becomes increasingly important, there is a greater need for improved stability and shelf life of foods and beverages. This handbook distills a great amount of information on all aspects of food and beverage stability into easily accessible, uncluttered tabular form.**A wealth of carefully selected, up-to-date information is compiled on a wide variety of foods and beverages, including:**meat and meat products**fish and shellfish**dairy products**fruits, legumes, and vegetables**bakery goods and more.**Expert researchers in the field present new information, unpublished results, and previously hard-to-find references. All food scientists and technologists will want a copy of this handbook within easy reach in the laboratory.

This authoritative reference covers food-manufacturing principles, and details the processing and manufacturing of products in the fields of: Health, Meat, Milk, Poultry, Seafood, and Vegetables. * Includes an overview of food manufacturing principles * Presents details of commercial processing for each commodity including (where appropriate) a general introduction, ingredients, technologies, types and evaluation of industrial products, special problems, types and evaluation of consumer products, and processing and product trends * For each commodity, information includes the details of commercial processing of several representative foods.

Dairy foods account for a large portion of the Western diet, but due to the potential diversity of their sources, this food group often poses a challenge for food scientists and their research efforts. Bringing together the foremost minds in dairy research, Handbook of Dairy Foods Analysis, Second Edition, compiles the top dairy analysis techniques and methodologies from around the world into one well-organized volume. Exceptionally comprehensive in both its detailing of methods and the range of dairy products covered, this handbook includes tools for analyzing chemical and biochemical compounds and also bioactive peptides, prebiotics, and probiotics. It describes noninvasive chemical and physical sensors and starter cultures used in quality control. This second edition includes four brand-new chapters covering the analytical techniques and methodologies for determining bioactive peptides, preservatives, activity of endogenous enzymes, and sensory perception of dairy foods, and all other chapters have been adapted to recent research. All other chapters have been thoroughly updated. Key Features: Explains analytical tools available for the analysis of the chemistry and biochemistry of dairy foods Covers a variety of dairy foods including milk, cheese, butter, yogurt, and ice cream Analysis of nutritional quality includes prebiotics, probiotics, essential amino acids, bioactive peptides, and healthy vegetable-origin compounds Includes a series of chapters on analyzing sensory qualities, including color, texture, and flavor. Covering the gamut of dairy analysis techniques, the book discusses current methods for the analysis of chemical and nutritional compounds, and the detection of microorganisms, allergens, contaminants, and/or other adulterations, including those of environmental origin or introduced during processing. Other methodologies used to evaluate color, texture, and flavor are also discussed. Written by an international panel of distinguished contributors under the editorial guidance of renowned authorities, Fidel Toldrá and Leo M.L. Nollet, this handbook is one of the few references that is completely devoted to dairy food analysis – an extremely valuable reference for those in the dairy research, processing, and manufacturing industries.

Many food ingredients are supplied in powdered form, as reducing water content increases shelf life and aids ease of storage, handling and transport. Powder technology is therefore of great importance to the food industry. The Handbook of food powders

explores a variety of processes that are involved in the production of food powders, the further processing of these powders and their functional properties. Part one introduces processing and handling technologies for food powders and includes chapters on spray, freeze and drum drying, powder mixing in the production of food powders and safety issues around food powder production processes. Part two focusses on powder properties including surface composition, rehydration and techniques to analyse the particle size of food powders. Finally, part three highlights speciality food powders and includes chapters on dairy powders, fruit and vegetable powders and coating foods with powders. The Handbook of food powders is a standard reference for professionals in the food powder production and handling industries, development and quality control professionals in the food industry using powders in foods, and researchers, scientists and academics interested in the field. Explores the processing and handling technologies in the production of food powders Examines powder properties, including surface composition, shelf life, and techniques used to examine particle size Focusses on speciality powders such as dairy, infant formulas, powdered egg, fruit and vegetable, and culinary and speciality products

Handbook of Dairy Foods and Nutrition compiles the most current information on the role of dairy foods in a healthy diet. This volume scientifically reviews the full range of fact and fiction concerning the dietary contributions of dairy foods. Each chapter has been reviewed by recognized experts in the area that it addresses. Although many are aware of the valuable benefits of dairy foods and the nutrients they provide, others remain skeptical despite scientific evidence. This book examines the role of dairy in diets for cardiovascular health, regulating blood pressure, reducing colon cancer risk, and enhancing bone and oral health. In addition, the bone health of vegetarians, lactose intolerance, and childhood nutrition issues are addressed.

Handbook of Milk Composition Elsevier

Handbook of Agricultural and Farm Machinery, Third Edition, is the essential reference for understanding the food industry, from farm machinery, to dairy processing, food storage facilities and the machinery that processes and packages foods. Effective and efficient food delivery systems are built around processes that maximize efforts while minimizing cost and time. This comprehensive reference is for engineers who design and build machinery and processing equipment, shipping containers, and packaging and storage equipment. It includes coverage of microwave vacuum applications in grain processing, cacao processing, fruit and vegetable processing, ohmic heating of meat, facility design, closures for glass containers, double seaming, and more. The book's chapters include an excellent overview of food engineering, but also regulation and safety information, machinery design for the various stages of food production, from tillage, to processing and packaging. Each chapter includes the state-of-the art in technology for each subject and numerous illustrations, tables and references to guide the reader through key concepts. Describes the latest breakthroughs in food production machinery Features new chapters on engineering properties of food materials, UAS applications, and microwave processing of foods Provides efficient access to fundamental information and presents real-world applications Includes design of machinery and facilities as well as theoretical bases for determining and predicting behavior of foods as they are handled and processed

This two-volume handbook supplies food chemists with essential information on the physical and chemical properties of nutrients, descriptions of analytical techniques, and an assessment of their procedural reliability. The new edition includes two new chapters that spotlight the characterization of water activity and the analysis of inorganic nutrients. Understanding of the interactions of milk proteins in complex food systems continues to progress, resulting in specialized milk-protein based applications in functional foods, and in protein ingredients for specific health applications. Milk Proteins is the first and only presentation of the entire dairy food chain – from the source to the nutritional aspects affecting the consumer. With focus on the molecular structures and interactions of milk proteins in various processing methods, Milk Proteins presents a comprehensive overview of the biology and chemistry of milk, as well as featuring the latest science and developments. Significant insight into the use of milk proteins from an industry viewpoint provides valuable application-based information. Those working with food and nutritional research and product development will find this book useful. 20% new chapter content — full revision throughout New chapters address: role of milk proteins in human health; aspects of digestion and absorption of milk proteins in the GIT; consumer demand and future trends in milk proteins; and world supply of proteins with a focus on dairy proteins Internationally recognized authors and editors bring academic and industrial insights to this important topic

"This book discusses the nutritional, physical, and chemical factors of camel milk in comparison to other animal and plant-based milks and introduces benefits attributed to camel meat. It explores the health benefits of fresh and fermented camel milk in vitro and in vivo as well as the link between functional constituents and the functional properties of milk"-- Provided by publisher.

Fermented foods have been an important part of the human diet in many cultures for many centuries. Modern research, especially on the immune system, is revealing how these foods and their active ingredients impact human health. Handbook of Fermented Functional Foods presents the latest data on fermented food products, their production processes, an

Mineral elements are found in foods and drink of all different types, from drinking water through to mothers' milk. This research for mineral elements has shown that many trace and ultratrace-level elements presented in food are required for a healthy life. By identifying and analysing these elements, it is possible to evaluate them for their specific health-giving properties, and conversely, to isolate their less desirable properties with a view to reducing or removing them altogether from some foods. The analysis of mineral elements requires a number of different techniques – some methods may be suitable for one food type yet completely unsuited to another. The Handbook of Mineral Elements in Food is the first book to bring together the analytical techniques, the regulatory and legislative framework, and the widest possible range of food types into one comprehensive handbook for food scientists and technologists. Much of the book is based on the authors' own data, most of which is previously unpublished, making the Handbook of Mineral Elements in Food a vital and up-to-the-minute reference for food scientists in industry and academia alike. Analytical chemists, nutritionists and

food policymakers will also find it an invaluable resource. Showcasing contributions from international researchers, and constituting a major resource for our future understanding of the topic, the Handbook of Mineral Elements in Food is an essential reference and should be found wherever food science and technology are researched and taught.

Breast feeding has a great impact on the growth of infants both physically and psychologically. Human breast milk is beneficial to infant health because it contains the necessary macro- and micro-nutrients for tissue accretion, repair and behavioural developments. The production of milk is a complex biological process and its composition and volume is dependent upon a variety of factors such as the health and dietary status of the mother. Moreover, it is influenced by the different stages and duration of breast feeding. Environmental factors, both global and local, may also alter lactation, milk composition and nutritional value. This handbook provides a unique and complete insight into the dietary and nutritional aspects of human breast milk. For a general understanding an overview is given of breast structure and function and lactation. Nutritional aspects are highlighted in a section on the composition of breast milk, including recent research results on breast milk and growth factors, vitamins, proteins and antigens, amongst others. Finally an analysis of both the beneficial and adverse factors relating to lactation and composition of breast milk are discussed.

This new edition of Handbook of Dairy Foods and Nutrition presents the latest developments in dairy foods research. It examines the role of dairy products in the diet for cardiovascular health, reducing risk for blood pressure and colon cancer, and enhancing bone and oral health. In addition, the bone health of vegetarians and lactose intolerant individuals are addressed. The importance of milk and milk products in the diet throughout the lifecycle is addressed. **WHAT'S NEW IN THE SECOND EDITION? NEW CHAPTERS!** "Milk and Milk Products" will include: *Official recommendations for inclusion of milk and milk products in the diet *Nutrient contributions of milk and milk products *Nutrient components (energy, carbohydrate, protein, fat, vitamins, minerals, electrolytes) *Protection of quality of milk products *Kinds of milk and milk products "Contributions of Milk and Milk Products to a Healthy Diet Throughout the Life Cycle" will include: *Unique aspects of each developmental stage in the life cycle *Nutrient contributions of dairy foods to the diet *Other non-nutrient components of dairy foods with known health benefits *Official recommendations for the use of Milk Group foods for each age group *Discussion of strategies to improve dairy food intake **PLUS EXTENSIVE REVISIONS TO EXISTING CHAPTERS INCLUDING:** *Recent American Heart Association recommendations *Updated data on fat and cholesterol intake *Tables of new RDAs/DRIs *Latest information on the anticarcinogenic effect of dairy food components *And much more!

Spray drying is a mechanical process by which materials in liquid form can be converted into solid form such as powders. It is a rapid, continuous, cost-effective, reproducible and scalable process for producing dry powders from a fluid material by atomization through an atomizer into a hot drying gas medium, usually air. The Handbook on Spray Drying Applications for Food Industries deals with recent techniques adopted in spray drying systems for drying a vast array of food products, novel and emerging tools used for spray drying of antioxidant rich products, optimized conditions used for extraction and production of herbal powders by using spray drying techniques, and problems encountered during spray drying of acid and sugar rich foods and also various herbal powders. The book discusses the encapsulation of flavors by using the spray drying process providing a comparison with other encapsulation techniques. It reviews the retention of bioactive compounds and the effect of different parameters on bioactive compounds during spray drying of juice. Moreover, the book explains the effect of novel approaches of spray drying on nutrients. The book addresses strategies adopted for retention of nutrients and survival of probiotic bacteria during spray drying processing. It also identifies packaging material needed for enhanced product stability. The safety and quality aspects of manufacturing spray dried food products are discussed. **Key Features:** Describes the design of high performance spray drying systems Highlights the strategy adopted for maximizing the yield potential of various spray dried food products Discusses strategies adopted for retention of nutrients and survival of probiotic bacteria during spray drying process Contains charts, procedure flow sheets, tables, figures, photos, and a list of spray drying equipment suppliers This book will benefit entrepreneurs, food scientists, academicians and students by providing in-depth knowledge about spray drying of foods for quality retention and also for efficient consumer acceptability of finished products.

Updated to reflect changes in the industry during the last ten years, The Handbook of Food Analysis, Third Edition covers the new analysis systems, optimization of existing techniques, and automation and miniaturization methods. Under the editorial guidance of food science pioneer Leo M.L. Nollet and new editor Fidel Toldra, the chapters take an in

The Handbook of Food Products Manufacturing is a definitive master reference, providing an overview of food manufacturing in general, and then covering the processing and manufacturing of more than 100 of the most common food products. With editors and contributors from 24 countries in North America, Europe, and Asia, this guide provides international expertise and a truly global perspective on food manufacturing.

Cheeses are one of the most diverse food commodities known. They have a wide range of regional and geographical differences in manufacture, taste, texture, colour and contribution to the diet. Because cheese is an important source of macro- and micro-nutrients it can be seen as a valuable product in human nutrition. However, some consider that traditionally manufactured cheeses may not contribute to optimal health. For this reason, there is a drive to produce types with reduced or modified fat or salt contents. Another aspect that affects human health is that cheese may also harbour harmful pathogens in some circumstances. To gain a holistic understanding of cheese in health, nutritionists and dieticians have a fundamental need to grasp the process of cheese manufacture, while cheese manufacturers benefit by understanding the health related aspects of cheese. This handbook bridges the intellectual and trans-disciplinary divide and provides a balanced overview of cheese in relation to health. Experts provide a comprehensive coverage of subjects in relation to cheese production, nutrition and medical sciences, such as composition and health benefits, toxicology, metabolic and nutritional effects and microbiology.

Oils and fats have a major impact on the nutritional and sensory quality of many foods. Food manufacturers must often modify lipid components or ingredients in food to achieve the right balance of physical, chemical and nutritional properties. Modifying lipids for use in foods reviews the range of lipids available, techniques for their modification and how they can be used in food products. Part one reviews vegetable, animal, marine and microbial sources of lipids and their structure. The second part of the book discusses the range of techniques for modifying lipids such as hydrogenation, fractionation and interesterification. Finally, part three considers the wide range of applications of modified lipids in such areas as dairy and bakery products, confectionary and frying oils. With its distinguished editor and international range of contributors, Modifying lipids for use in foods is a standard reference for dairy and other manufacturers using modified lipids. Reviews the range of lipids available Assesses techniques for modifying lipids such as fractionation and interesterification Considers the wide range of applications of modified lipids

This handbook is intended to be a comprehensive reference for the various chemical aspects of foods and food products. Apart from the

traditional knowledge, this book covers the most recent research and development of food chemistry in the areas of functional foods and nutraceuticals, organic and genetically modified foods, nonthermal food processing as well as nanotechnology. This handbook contains both the basic and advanced chemistry both for food research and its practical applications in various food related industries and businesses. This book is appropriate for undergraduates and postgraduates in the academics and professionals from the various disciplines and industries who are interested in applying knowledge of food chemistry in their respective fields.

Mineral elements are found in foods and drink of all different types, from drinking water through to mothers' milk. The search for mineral elements has shown that many trace and ultratrace-level elements presented in food are required for a healthy life. By identifying and analysing these elements, it is possible to evaluate them for their specific health-giving properties, and conversely, to isolate their less desirable properties with a view to reducing or removing them altogether from some foods. The analysis of mineral elements requires a number of different techniques – some methods may be suitable for one food type yet completely unsuited to another. The Handbook of Mineral Elements in Food is the first book to bring together the analytical techniques, the regulatory and legislative framework, and the widest possible range of food types into one comprehensive handbook for food scientists and technologists. Much of the book is based on the authors' own data, most of which is previously unpublished, making the Handbook of Mineral Elements in Food a vital and up-to-the-minute reference for food scientists in industry and academia alike. Analytical chemists, nutritionists and food policy makers will also find it an invaluable resource. Showcasing contributions from international researchers, and constituting a major resource for our future understanding of the topic, the Handbook of Mineral Elements in Food is an essential reference and should be found wherever food science and technology are researched and taught.

Rapid, inexpensive, and easy-to-deploy, near-infrared (NIR) spectroscopy can be used to analyze samples of virtually any composition, origin, and condition. The Handbook of Near Infrared Analysis, Fourth Edition, explores the factors necessary to perform accurate and time- and cost-effective analyses across a growing spectrum of disciplines. This updated and expanded edition incorporates the latest advances in instrumentation, computerization, chemometrics applied to NIR spectroscopy, and method development in NIR spectroscopy, and underscores current trends in sample preparation, calibration transfer, process control, data analysis, instrument performance testing, and commercial NIR instrumentation. This work offers readers an unparalleled combination of theoretical foundations, cutting-edge applications, and practical experience. Additional features include the following: Explains how to perform accurate as well as time- and cost-effective analyses. Reviews software-enabled chemometric methods and other trends in data analysis. Highlights novel applications in pharmaceuticals, polymers, plastics, petrochemicals, textiles, foods and beverages, baked products, agricultural products, biomedicine, nutraceuticals, and counterfeit detection. Underscores current trends in sample preparation, calibration transfer, process control, data analysis, and multiple aspects of commercial NIR instrumentation. Offering the most complete single-source guide of its kind, the Handbook of Near Infrared Analysis, Fourth Edition, continues to offer practicing chemists and spectroscopists an unparalleled combination of theoretical foundations, cutting-edge applications, and detailed practical experience provided firsthand by more than 50 experts in the field.

Proteins play an important role in nutrition, taste, allergies, texture, structure, processing and yield performance. In the food industry, proteins are a key element of our diet and an important ingredient for food technologists. The total protein component of milk is composed of numerous specific proteins. Isolated milk protein products represent an important and valuable source of protein ingredients due to their recognized superior nutritional, organoleptic and functional properties. Milk protein is a rich source of essential amino acids and they have been the subject of intensive research for an effort to unravel their molecular structure and interactions, relationship between structure and functional attributes, interactions of proteins during processing and, more recently, their physiological functions. Free fatty acids (FFA) in fresh milk normally amount to less than 1% of the total milk fat, yet they are important because of their effect on milk flavour. Now a day, the processing of milk is part of a highly organized and controlled dairy industry, which produces and markets a multitude of dairy products. Functional milk proteins are perfectly suited for use in the dairy sector of food production and the modern food processing industry is placing more and more emphasis upon the utilization of protein ingredients to provide specific functional properties to a wide range of formulated foods. In recent years, there has been a great deal of progress in the understanding and management of milk proteins across the production chain. Some of the fundamentals of the book are surface tension of milk, lactose chemistry, milk proteins, phosphorylation of milk proteins, comparative aspects of milk proteins, utilization of milk proteins, heat stability of milks, heat stability of homogenized concentrated milk, lysinoalanine in milk and milk products, heat coagulation of type A milk, syneresis of heated milk, fatty acids in milk, milk gel assembly, mechanical agitation of milk, natural, leucocyte and bacterial milk, grass and legume diets and milk production. This book provides a complete overview and offers insights into topics for more in-depth reading on milk and milk proteins. The book covers chapters on milk proteins, biosynthesis & secretion of milk proteins, utilization, types of milk proteins, phosphorylation, milk glycoproteins and many more. It is hoped that this book will be very helpful to all its readers, students, new entrepreneurs, food technologist, technical institution and scientists.

The Encyclopedia of Food and Health provides users with a solid bridge of current and accurate information spanning food production and processing, from distribution and consumption to health effects. The Encyclopedia comprises five volumes, each containing comprehensive, thorough coverage, and a writing style that is succinct and straightforward. Users will find this to be a meticulously organized resource of the best available summary and conclusions on each topic. Written from a truly international perspective, and covering of all areas of food science and health in over 550 articles, with extensive cross-referencing and further reading at the end of each chapter, this updated encyclopedia is an invaluable resource for both research and educational needs. Identifies the essential nutrients and how to avoid their deficiencies Explores the use of diet to reduce disease risk and optimize health Compiles methods for detection and quantitation of food constituents, food additives and nutrients, and contaminants Contains coverage of all areas of food science and health in nearly 700 articles, with extensive cross-referencing and further reading at the end of each chapter THE ONLY SINGLE-SOURCE GUIDE TO THE LATEST SCIENCE, NUTRITION, AND APPLICATIONS OF ALL THE NON-BOVINE MILKS CONSUMED AROUND THE WORLD Featuring contributions by an international team of dairy and nutrition experts, this second edition of the popular Handbook of Milk of Non-Bovine Mammals provides comprehensive coverage of milk and dairy products derived from all non-bovine dairy species. Milks derived from domesticated dairy species other than the cow are an essential dietary component for many countries around the world. Especially in developing and under-developed countries, milks from secondary dairy species are essential sources of nutrition for the

humanity. Due to the unavailability of cow milk and the low consumption of meat, the milks of non-bovine species such as goat, buffalo, sheep, horse, camel, Zebu, Yak, mare and reindeer are critical daily food sources of protein, phosphate and calcium. Furthermore, because of hypoallergenic properties of certain species milk including goats, mare and camel are increasingly recommended as substitutes in diets for those who suffer from cow milk allergies. This book: Discusses key aspects of non-bovine milk production, including raw milk production in various regions worldwide Describes the compositional, nutritional, therapeutic, physio-chemical, and microbiological characteristics of all non-bovine milks Addresses processing technologies as well as various approaches to the distribution and consumption of manufactured milk products Expounds characteristics of non-bovine species milks relative to those of human milk, including nutritional, allergenic, immunological, health and cultural factors. Features six new chapters, including one focusing on the use of non-bovine species milk components in the manufacture of infant formula products Thoroughly updated and revised to reflect the many advances that have occurred in the dairy industry since the publication of the acclaimed first edition, Handbook of Milk of Non-Bovine Mammals, 2nd Edition is an essential reference for dairy scientists, nutritionists, food chemists, animal scientists, allergy specialists, health professionals, and allied professionals.

Packed with case studies and problem calculations, Handbook of Food Processing: Food Safety, Quality, and Manufacturing Processes presents the information necessary to design food processing operations and describes the equipment needed to carry them out in detail. It covers the most common and new food manufacturing processes while addressing rele

No one can deny the fact that the cow is the primary dairy animal species to provide humans with nutritious dairy foods through its abundance of lacteal secretion. The goat or other minor dairy species will never be able to compete with the cow in terms of the volume of milk production. Yet, the contribution of milks from other secondary domesticated dairy species to the survival and well-being of mankind around the world is immense and invaluable. Testament to the importance of non-bovine milk is that more people drink the milk of goats than that of any other single species in the world. In developing and under-developed counties, the secondary dairy species play a crucial role in supplying the food and nutritional needs of the people in those regions. Due to the unavailability of cow milk and the low consumption of meat, the milks of minor species such as goat, buffalo, sheep, and camel are critical daily food sources of protein, phosphate and calcium. Furthermore, because of important and inherent hypoallergenic properties, milks of certain species such as goat milk have been recommended as substitutes in diets for those with cow milk allergies. Editors Park and Haenlein have assembled dairy and nutrition experts from around the world to contribute to the Handbook of Milk of Non-Bovine Mammals. Secondary dairy species addressed are the goat, sheep, buffalo, mare, camel, yak, deer (reindeer), sow, llama, alpaca, moose, musk ox, caribou, ass, elk, pinniped, polar bear and human. The book comprehensively covers the most important aspects of milk production including: trends and methods of raw milk production in different regions; compositional, nutritional, therapeutic, physico-chemical, and microbiological characteristics of the milks; processing technology; and types, distribution and consumption of the manufactured products from minor species milks. Of special note is coverage comparing specific human health attributes of milk from the various species, including nutritional, allergenic, immunological, and cultural factors. Because secondary dairy species have such a significant impact on human well-being and survival in many parts of the world, the Handbook of Milk of Non-Bovine Mammals is an essential reference book of leading-edge information for dairy scientists, nutritionists, food chemists, allergy specialists, health professionals, and allied professionals.

Authored by world experts, the Handbook of Food Processing, Two-Volume Set discusses the basic principles and applications of major commercial food processing technologies. The handbook discusses food preservation processes, including blanching, pasteurization, chilling, freezing, aseptic packaging, and non-thermal food processing. It describes com

Dairy foods account for a large portion of the Western diet, but due to the potential diversity of their sources, this food group often poses a challenge for food scientists and their research efforts. Bringing together the foremost minds in dairy research, Handbook of Dairy Foods Analysis compiles the top dairy analysis techniques and methodologies from around the world into one, well-organized volume. Co-Edited by Fidel Toldra - Recipient of the 2010 Distinguished Research Award from the American Meat Science Association Exceptionally comprehensive both in its detailing of methods and the range of products covered, this handbook includes tools for analyzing chemical and biochemical compounds and also bioactive peptides, prebiotics, and probiotics. It describes noninvasive chemical and physical sensors and starter cultures used in quality control. Covers the Gamut of Dairy Analysis Techniques The book discusses current methods for the detection of microorganisms, allergens, and other adulterations, including those of environmental origin or introduced during processing. Other methodologies used to evaluate color, texture, and flavor are also discussed. Written by an International Panel of Distinguished Contributors Under the editorial guidance of renowned authorities, Leo M.L. Nollet and Fidel Toldrá, this handbook is one of the few references that is completely devoted to dairy food analysis – a extremely valuable reference for those in the dairy research, processing, and manufacturing industries.

In recent years, the formation and impacts of biofilms on dairy manufacturing have been studied extensively, from the effects of microbial enzymes produced during transportation of raw milk to the mechanisms of biofilm formation by thermophilic spore-forming bacteria. The dairy industry now has a better understanding of biofilms and of approaches that may be adopted to reduce the impacts that biofilms have on manufacturing efficiencies and the quality of dairy products. Biofilms in the Dairy Industry provides a comprehensive overview of biofilm-related issues facing the dairy sector. The book is a cornerstone for a better understanding of the current science and of ways to reduce the occurrence of biofilms associated with dairy manufacturing. The introductory section covers the definition and basic concepts of biofilm formation and development, and provides an overview of problems caused by the occurrence of biofilms along the

dairy manufacturing chain. The second section of the book focuses on specific biofilm-related issues, including the quality of raw milk influenced by biofilms, biofilm formation by thermotolerant streptococci and thermophilic spore-forming bacteria in dairy manufacturing plants, the presence of pathogens in biofilms, and biofilms associated with dairy waste effluent. The final section of the book looks at the application of modelling approaches to control biofilms. Potential solutions for reducing contamination throughout the dairy manufacturing chain are also presented. Essential to professionals in the global dairy sector, *Biofilms in the Dairy Industry* will be of great interest to anyone in the food and beverage, academic and government sectors. This text is specifically targeted at dairy professionals who aim to improve the quality and consistency of dairy products and improve the efficiency of dairy product manufacture through optimizing the use of dairy manufacturing plant and reducing operating costs.

Milk is nature's most complete food, and dairy products are considered to be the most nutritious foods of all. The traditional view of the role of milk has been greatly expanded in recent years beyond the horizon of nutritional subsistence of infants: it is now recognized to be more than a source of nutrients for the healthy growth of children and nourishment of adult humans. Alongside its major proteins (casein and whey), milk contains biologically active compounds, which have important physiological and biochemical functions and significant impacts upon human metabolism, nutrition and health. Many of these compounds have been proven to have beneficial effects on human nutrition and health. This comprehensive reference is the first to address such a wide range of topics related to milk production and human health, including: mammary secretion, production, sanitation, quality standards and chemistry, as well as nutrition, milk allergies, lactose intolerance, and the bioactive and therapeutic compounds found in milk. In addition to cow's milk, the book also covers the milk of non-bovine dairy species which is of economic importance around the world. The Editors have assembled a team of internationally renowned experts to contribute to this exhaustive volume which will be essential reading for dairy scientists, nutritionists, food scientists, allergy specialists and health professionals. This informative treatise offers a concise collection of existing, expert data summarizing the composition of milk. The *Handbook of Milk Composition* summarizes current information on all aspects of human and bovine milk, including: sampling, storage, composition, as well as specific chapters on major and minor components such as protein, carbohydrates, lipids, electrolytes, minerals, vitamins and hormones. The book also features comprehensive coverage of compartmentation, host-defense components, factors affecting composition, composition of commercial formulas, and contaminants. * Reliable data on the composition of human and bovine milks. * Discusses the many factors affecting composition. * Composition tables make up 25-30% of the total book. * Problems concerning sampling and analysis are described. * Should appeal equally to industry and academia. * Also of interest to developing countries in need of information on infant nutrition and agricultural development

This text discusses a wide range of print and electronic media to locate hard-to-find documents, navigate poorly indexed subjects and investigate specific research topics and subcategories. It includes a chapter on grey and extension literature covering technical reports and international issues.

On the basis of a comprehensive literature review and analysis, *Nutrition During Lactation* points out specific directions for needed research in understanding the relationship between the nutrition of healthy mothers and the outcomes of lactation. Of widest interest are the committee's clear-cut recommendations for mothers and health care providers. The volume presents data on who among U.S. mothers is breastfeeding, a critical evaluation of methods for assessing the nutritional status of lactating women, and an analysis of how to relate the mother's nutrition to the volume and composition of the milk. Available data on the links between a mother's nutrition and the nutrition and growth of her infant and current information on the risk of transmission through breastfeeding of allergic diseases, environmental toxins, and certain viruses (including the HIV virus) are included. *Nutrition During Lactation* also studies the effects of maternal cigarette smoking, drug use, and alcohol consumption.

Understanding what the consumer wants and will accept are two of the most significant hurdles faced by anyone in new product development. Whether the concern is the proper mouth-feel of a potato chip, the sense of freshness evoked by a chewing gum, or the weight and texture of a cosmetic, if the consumer doesn't find the product acceptable, it won't sell. Sensory evaluation testing is the process that establishes the consumer acceptability of a product. It can help identify issues before general production is begun and potentially bring to light issues that hadn't previously been considered a factor in the success of the project. Emphasizes the importance of a scientific sensory methodology used to measure and understand consumer perception. Illustrates the importance of planning, managing, and communicating product sensory information in a way that is actionable to developers and marketers. Presents demonstrated methods for test selection, application and measurement, and testing with the right consumer, including more typical usage environments. Includes worked examples for interpreting and displaying results

[Copyright: 3fab5e61be47df07068d44c4ee732d6a](https://doi.org/10.1002/9781118444444.ch4)