PDF HANDBOOK OF MILK COMPOSITION FOOD SCIENCE AND TECHNOLOGY

Handbook of Milk Composition

This work offers a collection of existing data summarizing the composition of milk. It provides current information on all aspects of human and bovine milk, including sampling, storage and composition. There are specific chapters on major and minor components such as protein, carbohydrates, electrolytes, minerals, vitamins and hormones. The text also features coverage of compartmentation, host-defence components, factors affecting composition, composition of commercial formulas, and contaminants. Information on milks from other species, including those consumed and not consumed by humans is also featured.

Handbook of Milk Composition

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

Handbook of Milk of Non-Bovine Mammals

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.

Dairy Science and Technology Handbook

Advances in food science, technology, and engineering are occurring at such a rapid rate that obtaining current, detailed information is challenging at best. While almost everyone engaged in these disciplines has accumulated a vast variety of data over time, an organized, comprehensive resource containing this data would be invaluable to have. The

Dairy Science and Technology Handbook: Product manufacturing

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, th e 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.

Handbook of Food Science, Technology, and Engineering - 4 Volume Set

not only of undergraduate and equivalent students, but of the new graduate entering industry and facing new and potentially frightening situations. To this end, the book is structured to meet the requirements both ofthe student, with a basic knowledge ofchemistry, biochemistry and microbiology and of persons working in the dairy industry. The basic approach isto discuss the manufacturingprocess in thecontextof technology and its related chemistry and microbiology, followed by a more fundamental appraisal of the underlying science. The dairy industry is defined in a broad context and information is included on imitationproducts and analogues. Anumber ofinnovations have been adopted in the presentation ofthe book. Information boxes and • points are used to place the text in a wider scientific and commercial context, and exercises are included in most chapters to encourage the reader to apply the knowledge gained from the book to unfamiliar situations. It is also our firm beliefthat the control of food manufacturing processes should be considered as an integral partofthe technology and for this reason control points, based on the HACCPsystem, are includedwhere appropriate. A note on using the book EXERCISES Exercises are not intended to be treated like an examination question. Indeed in many cases there is no single correct, or incorrect, answer.

Handbook of Dairy Foods Analysis

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.

Milk and Milk Products

Major changes have recently taken place in the value attached to components of milk. Although approximately half the energy in milk is contained in fat, fat is rapidly decreasing in value relative to protein. This has come about because of the increased availability of competitively-priced, plant-derived edible oils and because of the perceived health problems associated with animal fat in the human diet. Such changes have major implications for the dairy sector, particularly in developed countries. Against this background, this book presents a timely review of developments in milk production and consumption, of changes in milk component values, and of the opportunities that biotechnology provides to alter the composition of and add value to milk on the farm. The subject coverage is very broad, ranging from nutritional aspects of pastures and forages, to rumen microbiology, genetics and reproductive technologies, milk biochemistry and environmental implications. It is based on a conference held in Wellington, New Zealand, in February 1996, and sponsored by the OECD and AgResearch. Contributors include leading research workers from North America, Europe, Japan, Australia and New Zealand. It provides an invaluable overview of the subject, suitable as a reference book for advanced students, researchers and advisers in dairy science as well as related disciplines such as grassland, nutritional and food sciences.

Handbook on Milk and Milk Proteins

The Advanced Dairy Chemistry series was first published in four volumes in the 1980s (under the title Developments in Dairy Chemistry) and revised in three volumes in the late 1990s and again in the 2000s and 2010s. For nearly four decades, the series has been the leading reference source on dairy chemistry and is now in its fourth edition. Advanced Dairy Chemistry Volume 3: Lactose, Water, Salts, and Minor Constituents, fourth edition, reviews the extensive literature on lactose and its significance in milk products. This volume also reviews the literature on milk salts, vitamins, and the behaviour of water in dairy products and the physical properties of milk. Most topics covered in the third edition are retained in the current

edition, which has been updated and expanded considerably. New chapters cover chemically and enzymatically prepared derivatives of lactose and oligosaccharides indigenous to milk and some chapters from earlier editions are consolidated.

Milk Composition, Production and Biotechnology

Milk has played a major contribution to the human diet in many different countries across the world since the dawn of time. The dairy cow was domesticated over 6000 years ago, she was the object of worship in the Middle East 2000 years before Christ, and milk and milk products are mentioned more than 50 times in the Bible. Milk and dairy products have become a major part of the human diet in many countries. It is not surprising therefore, that over many years considerable attention has been paid to improving the quality of milk. We have worked to improve the yield, the compositional quality and the hygienic quality, and have striven to minimise the level of contaminants which can find access to this, perhaps our most natural, unrefined and highly nutritious foodstuff. The chain of people involved in the milk industry extends from milk production-farmers, veterinarians and farm advisors-through transport to processing-quality controllers, manufacturers-and on to retailers, legislators, nutritionists, dairy educators and consumers. All will be interested in the quality parameters of milk which are reg ularly measured for commercial reasons, for trade, for legal requirements and for reasons of nutrition.

Advanced Dairy Chemistry

Fundamentals of Dairy Chemistry has always been a reference text which has attempted to provide a complete treatise on the chemistry of milk and the relevant research. The third edition carries on in that format which has proved successful over four previous editions (Fun damentals of Dairy Science 1928, 1935 and Fundamentals of Dairy Chemistry 1965, 1974). Not only is the material brought up-to-date, indeed several chapters have been completely re-written, but attempts have been made to streamline this edition. In view of the plethora of research related to dairy chemistry, authors were asked to reduce the number of references by eliminating the early, less significant ones. In addition, two chapters have been replaced with subjects which we felt deserved attention: \"Nutritive Value of Dairy Foods\" and \"Chemistry of Processing. \" Since our society is now more attuned to the quality of the food it consumes and the processes necessary to preserve that quality, the addition of these topics seemed justified. This does not minimize the importance of the information in the deleted chapters, \"Vitamins of Milk\" and \"Frozen Dairy Products. \" Some of the mate rial in these previous chapters has been incorporated into the new chapters; furthermore, the information in these chapters is available in the second edition, as a reprint from ADSA (Vitamins in Milk and Milk Products, November 1965) or in the many texts on ice cream manufac ture.

Milk Quality

The objective of this book is to provide a single reference source for those working with dairy-based ingredients, offering a comprehensive and practical account of the various dairy ingredients commonly used in food processing operations. The Editors have assembled a team of 25 authors from the United States, Australia, New Zealand, and the United Kingdom, representing a full range of international expertise from academic, industrial, and government research backgrounds. After introductory chapters which present the chemical, physical, functional and microbiological characteristics of dairy ingredients, the book addresses the technology associated with the manufacture of the major dairy ingredients, focusing on those parameters that affect their performance and functionality in food systems. The popular applications of dairy ingredients in the manufacture of food products such as dairy foods, bakery products, processed cheeses, processed meats, chocolate as well as confectionery products, functional foods, and infant and adult nutritional products, are covered in some detail in subsequent chapters. Topics are presented in a logical and accessible style in order to enhance the usefulness of the book as a reference volume. It is hoped that Dairy Ingredients for Food Processing will be a valuable resource for members of academia engaged in teaching and research in food science; regulatory personnel; food equipment manufacturers; and technical specialists engaged in the

manufacture and use of dairy ingredients. Special features: Contemporary description of dairy ingredients commonly used in food processing operations Focus on applications of dairy ingredients in various food products Aimed at food professionals in R&D, QA/QC, manufacturing and management World-wide expertise from over 20 noted experts in academe and industry

Fundamentals of Dairy Chemistry

The Advanced Dairy Chemistry series was first published in four volumes in the 1980s (under the title Developments in Dairy Chemistry) and revised in three volumes in the 1990s and 2000s. The series is the leading reference on dairy chemistry, providing in-depth coverage of milk proteins, lipids, lactose, water and minor constituents. Advanced Dairy Chemistry Volume 2: Lipids, Fourth Edition, is unique in the literature on milk lipids, a broad field that encompasses a diverse range of topics, including synthesis of fatty acids and acylglycerols, compounds associated with the milk fat fraction, analytical aspects, behavior of lipids during processing and their effect on product characteristics, product defects arising from lipolysis and oxidation of lipids, as well as nutritional significance of milk lipids. In the years since the publication of the third edition there have been significant developments in milk lipids and these are reflected in changes to this volume. Most topics included in the third edition are retained in the current edition, which has been updated; in some cases, new authors have given their perspective on certain topics. Chapters on nutritional significance of dairy lipids have been considerably revised. This authoritative work summarizes current knowledge on milk lipids and suggests areas for further work. It will be very valuable to dairy scientists, chemists and others working in dairy research or in the dairy industry.

Dairy Ingredients for Food Processing

Building upon the scope of its predecessor, Dairy Science and Technology, Second Edition offers the latest information on the efficient transformation of milk into high-quality products. It focuses on the principles of physical, chemical, enzymatic, and microbial transformations. The authors, highly regarded educators and researchers, divide the content of this book into four parts. Part I, Milk, discusses the chemistry, physics, and microbiology of milk. In addition to providing knowledge of milk properties, this section forms the basis for understanding what happens during processing, handling, and storage. Part II, Processes, illustrates the main unit operations used to manufacture milk products and highlights the influence certain product and process variables have on resulting products. In Part III, Products, the book integrates information on raw materials and processing as they relate to the manufacture of products. This section also explains the procedures necessary to ensure consumer safety, product quality, and process efficiency. Part IV, Cheese, describes the processes and transformations (physical, biochemical, and microbial) relating to the manufacture and ripening of cheese, starting with generic aspects and later discussing specific groups of cheeses. An important resource, Dairy Science and Technology, Second Edition provides a thorough understanding of milk’s composition and properties and the changes that occur in milk and its products during processing and storage.

Advanced Dairy Chemistry, Volume 2

This reference provides the groundwork, tools, and terminology required when conducting specialized searches for information and resources pertaining to traditional and emerging fields of agriculture. The editors present 16 contributions from librarians and other information workers that offer information on research resources across the academic a

Dairy Science and Technology, Second Edition

The book provides a comprehensive description of the principal constituents of milk (water, lipids, proteins, lactose, salts, vitamins) and of the chemical aspects of principal families of dairy products. It also covers applied aspects, such as heat-induced changes and the use of enzymes, and principal physical properties. This concise overview should be of value to all dairy scientists and students.

Using the Agricultural, Environmental, and Food Literature

This third volume in the Handbook of Food Science and Technology Set explains the processing of raw materials into traditional food (bread, wine, cheese, etc.). The agri-food industry has evolved in order to meet new market expectations of its products; with the use of separation and assembly technologies, food technologists and engineers now increasingly understand and control the preparation of a large diversity of ingredients using additional properties to move from the raw materials into new food products. Taking into account the fundamental basis and technological specificities of the main food sectors, throughout the three parts of this book, the authors investigate the biological and biochemical conversions and physicochemical treatment of food from animal sources, plant sources and food ingredients.

Dairy Chemistry and Biochemistry

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 thermoduric 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.

Handbook of Food Science and Technology 3

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.

Biofilms in the Dairy Industry

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

Handbook of Food Products Manufacturing, Volume 2

This comprehensive book provides new insights into the morphological, metabolic, thermoregulatory, locomotory, diving, sensory, feeding, and sleep adaptations of Cetacea (whales and dolphins), Pinnipedia (seals, sea lions and walrus), Sirenia (manatees and dugongs) and sea otters for an aquatic life. Each chapter reviews the discoveries from previous studies and integrates recent research using new techniques and technology. Readers will gain an understanding of the remarkable adaptations that enable marine mammals to spend all or most of their lives at sea, often while hunting prey at depth.

Handbook of Food Processing, Two Volume Set

Consumers demand quality milk with a reasonable shelf-life, a requirement that can be met more successfully by the milk industry through use of improved processes and technologies. Guaranteeing the production of safe milk also remains of paramount importance. Improving the safety and quality of milk provides a comprehensive and timely reference to best practice and research advances in these areas. Volume 1 focuses on milk production and processing. Volume 2 covers the sensory and nutritional quality of cow’s milk and addresses quality improvement of a range of other milk-based products. The health aspects of milk, its role in the diet and milk-based functional foods are the focus of the opening section of Volume 2. Part two reviews essential aspects of milk quality, including milk microbial spoilage and chemical deterioration, sensory evaluation, factors affecting milk vitamin and mineral content and the impact of packaging on quality. Chapters in part three look at improving particular products, such as organic milk, goat milk and sheep milk. The impact of milk on the quality of yoghurt and cheese is also covered. With its distinguished editor and international team of contributors, volume 2 of Improving the safety and quality of milk is an essential reference for researchers and those in industry responsible for milk safety and quality. Examines the sensory and nutritional quality of cow's milk and addresses quality improvement of a range of other milk-based products Reviews the health aspects of milk and its role in the diet, as well as the essential aspects of milk quality, including microbial spoilage and chemical deterioration, sensory evaluation and factors affecting milk vitamin and mineral content Discusses various application requirements of milk such as milk quality requirements in yoghurt-making, cheesemaking, infant formulas and applications of milk components in products other than foods

Marine Mammals

Building upon the scope of its predecessor, Dairy Science and Technology, Second Edition offers the latest information on the efficient transformation of milk into high-quality products. It focuses on the principles of physical, chemical, enzymatic, and microbial transformations. The authors, highly regarded educators and researchers, divide the content of this book into four parts. Part I, Milk, discusses the chemistry, physics, and microbiology of milk. In addition to providing knowledge of milk properties, this section forms the basis for understanding what happens during processing, handling, and storage. Part II, Processes, illustrates the main unit operations used to manufacture milk products and highlights the influence certain product and process variables have on resulting products. In Part III, Products, the book integrates information on raw materials and processing as they relate to the manufacture of products. This section also explains the procedures necessary to ensure consumer safety, product quality, and process efficiency. Part IV, Cheese, describes the processes and transformations (physical, biochemical, and microbial) relating to the manufacture and ripening of cheese, starting with generic aspects and later discussing specific groups of cheeses. An important resource, Dairy Science and Technology, Second Edition provides a thorough understanding of milk’s composition and properties and the changes that occur in milk and its products during processing and storage.

Improving the Safety and Quality of Milk

\"Milk and products made from it affect the lives of a large proportion of the world’s population. Many dairy products are consumed at times and in places far removed from the point at which the milk was produced.

This is made possible by the chemical and physical treatments and fractionations applied to milk by modern technology. These treatments are designed to preserve the nutritional value of the milk constituents in the form of palatable products. As food technology in general becomes more advanced and more sophisticated, there is less need for specific commodity technology; on the other hand, there is more need for specific knowledge of raw materials and the effects of various processing treatments on them.\" —From the Preface to Dairy Chemistry and Physics

Dairy Science and Technology, Second Edition

Advanced Dairy Chemistry-1. Proteins addresses the most commercially important constituents of milk in terms of their roles in nutrition and as functional components in foods. This third edition, which is the work of dairy scientists and other experts from around the world, provides detailed scientific information on all aspects of milk proteins.An extensively revised Table of Contents includes more chapter-level headings to make the material more accessible and highlights a number of key topics, such as methods for resolving and identifying proteins, biologically and physiologically active proteins, molecular genetics and functional milk proteins-all of which have assumed increased importance in recent years.All chapters from the second edition have been completely updated and coverage of the biological properties and stability of milk proteins has been enhanced greatly. The book has been expanded from 18 chapters in the second edition to 29 chapters and is divided into two parts: Part A (Chapters 1-11) describes the more basic aspects of milk proteins, while Part B (Chapters 12-29) reviews the more applied aspects. New topics include an overview of the milk protein system, allergenicity of milk proteins, bioactive peptides, genetic engineering of milk proteins, and certain additional chapters on protein-rich dairy products.This authoritative work summarizes current knowledge on milk proteins and suggests areas for future work.

Dairy Chemistry and Physics

Dairy Processing and Quality Assurance, Second Edition describes the processing and manufacturing stages of market milk and major dairy products, from the receipt of raw materials to the packaging of the products, including the quality assurance aspects. The book begins with an overview of the dairy industry, dairy production and consumption trends. Next are discussions related to chemical, physical and functional properties of milk; microbiological considerations involved in milk processing; regulatory compliance; transportation to processing plants; and the ingredients used in manufacture of dairy products. The main section of the book is dedicated to processing and production of fluid milk products; cultured milk including yogurt; butter and spreads; cheese; evaporated and condensed milk; dry milks; whey and whey products; ice cream and frozen desserts; chilled dairy desserts; nutrition and health; sensory evaluation; new product development strategies; packaging systems; non-thermal preservation technologies; safety and quality management systems; and dairy laboratory analytical techniques. This fully revised and updated edition highlights the developments which have taken place in the dairy industry since 2008. The book notably includes: New regulatory developments The latest market trends New processing developments, particularly with regard to yogurt and cheese products Functional aspects of probiotics, prebiotics and synbiotics A new chapter on the sensory evaluation of dairy products Intended for professionals in the dairy industry, Dairy Processing and Quality Assurance, Second Edition, will also appeal to researchers, educators and students of dairy science for its contemporary information and experience-based applications.

Handbook of Food Science, Technology, and Engineering

The first edition of Food processing technology was quickly adopted as the standard text by many food science and technology courses. This completely revised and updated third edition consolidates the position of this textbook as the best single-volume introduction to food manufacturing technologies available. This edition has been updated and extended to include the many developments that have taken place since the second edition was published. In particular, advances in microprocessor control of equipment, ‘minimal’ processing technologies, functional foods, developments in ‘active’ or ‘intelligent’ packaging, and storage

and distribution logistics are described. Technologies that relate to cost savings, environmental improvement or enhanced product quality are highlighted. Additionally, sections in each chapter on the impact of processing on food-borne micro-organisms are included for the first time. Introduces a range of processing techniques that are used in food manufacturing Explains the key principles of each process, including the equipment used and the effects of processing on micro-organisms that contaminate foods Describes post-processing operations, including packaging and distribution logistics

Advanced Dairy Chemistry: Volume 1: Proteins, Parts A&B

Handbook of Food Powders: Chemistry and Technology, Second Edition covers current developments in food powder technology, such as Microbial decontamination of food powders, Gas and oil encapsulated powders, and Plant-based protein powders among other important topics. Sections introduce processing and handling technologies for food powders, focus on powder properties, including surface composition, rehydration and techniques to analyze the particle size of food powders, and highlight specialty food powders such as dairy powders, fruit and vegetable powders and coating foods with powders. Edited by a team of international experts in the field, this book continues to be the only quality reference on food powder technology available for the audiences of professionals in the food powder production and handling industries. It is also ideal for development and quality control professionals in the food industry who use powders in foods, and for researchers, scientists and academics interested in the field. Introduces six new chapters that incorporate the current developments in food powder technology Examines powder properties, including surface composition, shelf life and techniques used to examine particle size Focuses on specialty powders such as dairy, infant formulas, powdered egg, fruit and vegetable, and culinary and specialty products

Dairy Processing and Quality Assurance

Since infant formula substitutes for human milk, its composition must match that of human milk as closely as possible. Quality control of infant formula is also essential to ensure product safety, as infants are particularly vulnerable food consumers. This book reviews the latest research into human milk biochemistry and best practice in infant formula processing technology and quality control. The most up to date reference on infant formula processing technologyReviews both human milk biochemistry and infant formula processing technology for broad and applied coverageFocusses exclusively on infant formulae

Food Processing Technology

Completely revised, this new edition updates the chemical and physical properties of major food components including water, carbohydrates, proteins, lipids, minerals vitamins and enzymes. Chapters on color, flavor and texture help the student understand key factors in the visual and organoleptic aspects of food. The chapter on contaminants and additives provides an updated view of their importance in food safety. Revised chapters on beer and wine production, and herbs and spices, provide the student with an understanding of the chemistry associated with these two areas which are growing rapidly in consumer interest. New to this edition is a chapter on the basics of GMOs. Each chapter contains new tables and illustrations, and an extensive bibliography, providing readers with ready access to relevant literature and links to the internet where appropriate. Just like its widely used predecessors, this new edition is valuable as a textbook and reference.

Handbook of Food Powders

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!

Human Milk Biochemistry and Infant Formula Manufacturing Technology

Dairy Science, Four Volume Set includes the study of milk and milk-derived food products, examining the biological, chemical, physical, and microbiological aspects of milk itself as well as the technological (processing) aspects of the transformation of milk into its various consumer products, including beverages, fermented products, concentrated and dried products, butter and ice cream. This new edition includes information on the possible impact of genetic modification of dairy animals, safety concerns of raw milk and raw milk products, peptides in milk, dairy-based allergies, packaging and shelf-life and other topics of importance and interest to those in dairy research and industry. Fully reviewed, revised and updated with the latest developments in Dairy Science Full color inserts in each volume illustrate key concepts Extended index for easily locating information

Principles of Food Chemistry

The chemistry and physico-chemical properties of milk proteins are perhaps the largest and most rapidly evolving major areas in dairy chemistry. Advanced Dairy Chemistry-1B: Proteins: Applied Aspects covers the applied, technologically-focused chemical aspects of dairy proteins, the most commercially valuable constituents of milk. This fourth edition contains most chapters in the third edition on applied aspects of dairy proteins. The original chapter on production and utilization of functional milk proteins has been split into two new chapters focusing on casein- and whey-based ingredients separately by new authors. The chapters on denaturation, aggregation and gelation of whey proteins (Chapter 6), heat stability of milk (Chapter 7) and protein stability in sterilised milk (Chapter 10) have been revised and expanded considerably by new authors and new chapters have been included on rehydration properties of dairy protein powders (Chapter 4) and sensory properties of dairy protein ingredients (Chapter 8). This authoritative work describes current knowledge on the applied and technologically-focused chemistry and physico-chemical aspects of milk proteins and will be very valuable to dairy scientists, chemists, technologists and others working in dairy research or in the dairy industry.

Handbook of Dairy Foods and Nutrition

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

Encyclopedia of Dairy Sciences

Eagan Press is the food science publishing imprint of AACC. The goal of the Eagan Press Ingredient Handbook Series is to create a single source of practical information for each of the major ingredients used in food processing. These handbooks fill the gap between scientific literature and the product specific information provided by suppliers. The result is a series of books that help food industry professionals gain a common understanding of ingredients, their properties, and their applications. Puts Practical Answers at Your Finger Tips Each volume is designed for maximum convenience with a concise, easy-to-follow format filled with visually-appealing features, including illustrations, graphs, diagrams, troubleshooting tables, and more. This approach offers all food professionals -- not just technical professionals -- quick access to the basic technical knowledge needed to understand and work with specific ingredients. Properties of Milk and Its Components. Basic Milk Processing. Production and Specifications of Milk Concentrates. Processing and Specifications of Dairy Foods. Baked Products. Chocolate and Confectionery Products. Sauces, Dressings, and Dairy Desserts. Snack Foods, Meats, and Other Applications. Nutrition and Labeling. Regulatory and Safety Aspects. Glossary. Index.

Advanced Dairy Chemistry

Since the publication of the first edition of Industrial Chocolate Manufacture and Use in 1988, it has become the leading technical book for the industry. From the beginning it was recognised that the complexity of the chocolate industry means that no single person can be an expert in every aspect of it. For example, the academic view of a process such as crystallisation can be very different from that of a tempering machine operator, so some topics have more than one chapter to take this into account. It is also known that the biggest selling chocolate, in say the USA, tastes very different from that in the UK, so the authors in the book were chosen from a wide variety of countries making the book truly international. Each new edition is a mixture of updates, rewrites and new topics. In this book the new subjects include artisan or craft scale production, compound chocolates and sensory. This book is an essential purchase for all those involved in the manufacture, use and sale of chocolate containing products, especially for confectionery and chocolate scientists, engineers and technologists working both in industry and academia. The new edition also boasts two new co-editors, Mark Fowler and Greg Ziegler, both of whom have contributed chapters to previous editions of the book. Mark Fowler has had a long career at Nestle UK, working in Cocoa and Chocolate research and development – he is retiring in 2013. Greg Ziegler is a professor in the food science department at Penn State University in the USA.

Milk Proteins

Fermented food can be produced with inexpensive ingredients and simple techniques and makes a significant contribution to the human diet, especially in rural households and village communities worldwide. Progress in the biological and microbiological sciences involved in the manufacture of these foods has led to commercialization and heightened interest among scientists and food processors. Handbook of Animal-Based Fermented Food and Beverage Technology, Second Edition is an up-to-date reference exploring the history, microorganisms, quality assurance, and manufacture of fermented food products derived from animal sources. The book begins by describing fermented animal product manufacturing and then supplies a detailed exploration of a range of topics including: Dairy starter cultures, microorganisms, leuconostoc and its use in dairy technology, and the production of biopreservatives Exopolysaccharides and fermentation ecosystems Fermented milk, koumiss, laban, yogurt, and sour cream Meat products, including ham, salami, sausages, and Turkish pastirma Malaysian and Indonesian fermented fish products Probiotics and fermented products, including the technological aspects and benefits of cheese as a probiotic carrier Fermented food products play a critical role in cultural identity, local economy, and gastronomical delight. With contributions from over 60

experts from more than 20 countries, the book is an essential reference distilling the most critical information on this food sector.

Dairy-based Ingredients

Beckett's Industrial Chocolate Manufacture and Use