Prebiotics and Probiotics

A comprehensive overview on the advances in the field, this volume presents the science underpinning the probiotic and prebiotic effects, the latest in vivo studies, the technological issues in the development and manufacture of these types of products, and the regulatory issues involved. It will be a useful reference for both scientists and technologists working in academic and governmental institutes, and the industry.

Prebiotic Bacteria

Prebiotic microorganisms are recognized as being beneficial for human health. Prebiotics are substrates that are used preferentially by the probiotic bacteria for their growth. Prebiotics, their characterization, mechanisms of action and their role in the prevention and management of human health disorders. Together they are referred to as symbiotic. This book is in response to the need for more current and global scope of probiotics and prebiotics. It contains chapters written by internationally recognized authors. The book has been planned to meet the needs of the researchers, health professionals, government regulatory agencies and industries. This book will serve as a standard reference book in this important and fast-growing area of probiotics and prebiotics in human nutrition and health.

Prebiotics and Probiotics Science and Technology

Advances in Probiotics: Microorganisms in Food and Health highlights recent advances in probiotic microorganisms, commercial probiotics, safety aspects of probiotics, preparation and commercialization, microbiome therapy for diseases and disorders, and next generation probiotics. This is a comprehensive resource of developments of new formulations and products for probiotic and prebiotic food with focus on the microorganisms to enable effective probiotic delivery. The book deliberates contemporary trends and challenges, risks, limitations in probiotic and prebiotic food to deliver an understanding not only for research development purposes but also to benefit further standardize industrial requirements and other techno-functional traits of probiotics. At present there is no solitary volume to describe the probiotics and prebiotics properties, Advances in Probiotics: Microorganisms in Food and Health provides novel information to fill the overall gap in the market. It presents the most current information on probiotic and prebiotics for the food industry. This book is a valuable resource for academicians, researchers, food industrialists, and entrepreneurs. Presents a simulated gastrointestinal system to analyze the probiotics effects on gut microbiome for learning purpose Includes research information on Next Generation Probiotics to foster new formulations Provides comprehensive information on probiotic microorganism behavior for more accurate analysis Discusses the potential of probiotic and prebiotic foods in preventing disease

Prebiotics and Prebiotics

Prebiotics in Pediatric Medicine provides clinicians a tool to understand the current evidence for the role of probiotics in various pediatric disorders related to the gastrointestinal as well as the extra-intestinal tract. This book provides evidence-based up-to-date information from world experts in their fields to help clinicians make decisions regarding the use of probiotics. A list of resources, web sites, and references relevant to probiotics can be found in the appendix. Currently, the market for probiotics continues to rely heavily on health claims made by manufacturers and retailers. Clinicians have the sole responsibility to understand the various strains and preparations commercially available and to advise patients accordingly. Prebiotics in Pediatric Medicine is an indispensable tool and a critical resource for health professionals that will aid in enhancing their ability to make the appropriate decisions regarding the use of probiotics.

Molecular Techniques in the Microbial Ecology of Fermented Foods
Although bioactive compounds in milk and dairy products have been extensively studied during the last few decades – especially in human and bovine milks and some dairy products – very few publications on this topic are available, especially in other dairy species’ milk and their processed dairy products. Also, little is available in the areas of bioactive and nutraceutical compounds in bovine and human milks, while books on other mammalian species are non-existent. Bioactive Components in Milk and Dairy Products extensively covers the bioactive components in milk and dairy products of many dairy species, including cows, goats, buffalo, sheep, horse, camel, and other minor species. Park has assembled an array of internationally reputed scientists in the forefront of functional milk and dairy products, food science and technology as contributors to this unique book. Coverage for each of the various dairy species includes: bioactive proteins and peptides; bioactive lipid components; oligosaccharides; growth factors; and other minor bioactive compounds, such as minerals, vitamins, hormones and nucleotides, etc. Bioactive components are discussed for manufactured dairy products, such as caseins, caseinates, and cheeses; yogurtproducts; koumiss and kefir; and whey products. Aimed at food scientists, food technologists, dairymen manufacturers, nutritionists, nutraceutical and functional food specialists, allergy specialists, biotechnologists, medical and health professionals, and upper level students and faculty in dairy and food sciences and nutrition, Bioactive Components in Milk and Dairy Products is an important resource for those who are seeking nutritional, health, and therapeutic values or product technology information on milk and dairy products from the dairy cow and species beyond. Areas featured are: unique coverage of bioactive compounds in milks of the dairy cow and minor species, including goat, sheep, buffalo, camel, and mare. Identifies bioactive components and their analytical isolation methods in manufactured dairy products, such as caseins, caseinates, and cheeses; yogurtproducts; koumiss and kefir; and whey products. Essential for professionals as well as biotechnology researchers specializing in functional foods, nutraceuticals, probiotics, and prebiotics. Contributed chapters from a team of world-renowned experts.

Bioactive Foods in Promoting Health

Probiotics are products aimed at delivering living bacterial cells to the gut ecosystem of humans and other animals, whereas prebiotics are non-digestible carbohydrates delivered in food to the large bowel to provide fermentable substrates for selected bacteria. Food scientists and nutritionists have accepted, relatively uncritically, the concepts underlying the use of probiotics and prebiotics in the promotion of health. Microbiologists and medical practitioners have viewed these products more skeptically. Much more scientific and medical validation of probiotic/prebiotic use is required. This will entail the use of sophisticated analytical methodologies. Knowledge of the gut microbiota has increased dramatically during the past decade thanks largely to the results obtained from the application of nucleic acid-based methodologies. Because of the availability of improved technologies, detailed studies of the two principal kinds of probiotic/prebiotic bacteria, members of the genera Lactobacillus and Bifidobacterium, can be made. While well-established scientists continue to make important contributions to probiotic/prebiotic research, it is notable that younger scholars are playing a vital role in developing scientific concepts related to the field. Several of these emerging leaders have contributed chapters to this book that therefore represents a state-of-the-art compendium of fundamental science related to early 21st century probiotic/prebiotic research.

Tamime and Robinson’s Yoghurt

Bioactive Foods in Health Promotion: Probiotics and Prebiotics brings together experts working on the different aspects of supplementation, foods, and bacterial preparations, in health promotion and disease prevention, to provide current scientific information, as well as providing a framework upon which to build clinical disease treatment studies. Since common dietary bacterial preparations are over-the-counter and readily available, this book will be useful to the growing nutrition, food science, and natural product community that will use it as a resource in identifying dietary behavioral modifications in pursuit of improved health as well as for treatment of specific disease, as it focuses on the growing body of knowledge of the role of various bacteria in reducing disease risk and disease. Probiotics are now a multi-billion-dollar dietary supplement business which is built upon extremely little research data. In order to follow the 1994 ruling, the U.S. Food and Drug Administration with the support of Congress is currently pushing this industry to base its claims and products on scientific research. Research as shown that dietary habits need to be altered for most people whether for continued or improved good health. The conclusions and recommendations from the various chapters in this book will provide a basis for those important factors of change by industry with new uses. Animal studies and early clinical ones will lead to new uses and studies. Particularly the cutting edge experimental and clinical studies from Europe will provide novel approaches to clinical uses through their innovative new studies. Feature: Heavy emphasis on clinical applications (benefits and/or lack thereof) as well as future biomedical therapeutic uses identified in animal model studies Benefits: Focused on therapies and data supporting them for application in clinical medicine as complementary and alternative medicines Feature: Key insights into gut flora and the potential health benefits thereof. Benefit: Health scientists and nutritionists will use this information to map out key areas of research. Food scientists will use it in product development. Feature: Information on pre- and probiotics as important sources of micro- and macronutrients Benefit: Aids in the development of methods for bio-modification of dietary plant molecules for health promotion. Feature: Coverage of a broad range of bacterial constituents Benefits: Nutritionists will use the information to identify which of these constituents should be used as dietary supplements based on health status of an individual. Feature: Science-based information on the health promoting characteristics of pre- and probiotics Benefits: Provides defense of food selections for individual consumption based on health needs and current status Feature: Diverse international authoring team experienced in studying prebiotics and probiotics for medical practice Benefits: Unusually broad range of experiences and newly completed clinical and animal studies provides extended access to latest information

Biodiversity And Environment

Probiotic bacteria are found in the intestinal microbiota of the host and favor multiple metabolic reactions. Prebiotics provide food for probiotic bacteria and have an effect on their own performance in favor of host health. Numerous metabolic and immunological mechanisms are involved in its effects. Probiotics have been studied for several decades and their use for human consumption is still unclear. However, new types of molecules with prebiotic functions and components of probiotic bacteria with therapeutic potential are still being studied. The versatility of these molecules makes their incorporation into human food and animal diets feasible. This book is a
compendium of recent scientific information on the use of probiotics and prebiotics for the benefit of human and animal health.

**The Microbe-Host Interface in Respiratory Tract Infections**

Describing all topics of white biotechnology admitted to the 7th EU Frame Programme and new industrial production processes aiming towards the Kyoto objectives, this comprehensive overview covers the technology, applications, economic potential and implications for society. Directed at readers with a general interest in a specific technology, this is equally suitable as an introductory handbook to a wide range of industries, including chemicals, biotechnology and pharmaceuticals, food and feed, paper and pulp, personal care, energy and agriculture.

**Biopolymers for Biomedical and Biotechnological Applications**

Created by leading international experts, *Mycoplasmas: Molecular Biology, Pathogenicity, and Strategies for Control* represents a cutting-edge summary of current knowledge in the field. Mycoplasmas, or mollicutes, form a large group of bacteria that can infect humans, animals, and plants. This comprehensive text focuses on the molecular and cell biology of mycoplasmas and related mollicutes. It also explores pathogenesis and emerging strategies for control. Coverage includes a variety of topics including genome analysis, gene vectors, genomics, motility, chemotaxis, attachment, molecular epidemiology, immunology, diagnosis, antimicrobial resistance, and vaccine technology.

**Probiotics and Prebiotics**

*Probiotic and Prebiotics in Foods: Challenges, Innovations, and Advances* reviews recent advances, innovations, and challenges in probiotics/prebiotics in food and beverages. The book presents up-to-date, novel and extensive information regarding recent research and applications in probiotics and prebiotics in food. Sections address probiotics, prebiotics, paraprobiotics and postbiotics, probiotics, prebiotics and bucal health, probiotics, prebiotics and obesity, probiotics, prebiotics and sleep quality, in vitro and in vivo assays for selection of probiotics, probiotics and mycotoxins, edible films added to probiotic and prebiotic, predictive microbiology applied to development of probiotic foods, non-bovine milk products as probiotic and prebiotic foods, emerging technologies, and much more. Written for food scientists, nutritionists, health professionals, food product developers, microbiologists, those working in food safety, and graduate students and researchers working in academia, this book is a welcomed resource on the topics discussed. Includes coverage of both dairy and non-dairy probiotics, prebiotics and symbiotic food products Discusses the efficacy of food substrate in probiotic and prebiotic delivery Presents predictive microbiology models

**Industrial Biotechnology**

This text provides information on probiotics and prebiotics, their general properties, technological applications and legislative aspect of adding prebiotics and probiotics to foods.

**Bioactive Components in Milk and Dairy Products**

Since the publication of the first edition in 1999, the science of probiotics and prebiotics has matured greatly and garnered more interest. The first handbook on the market, *Handbook of Probiotics and Prebiotics: Second Edition* updates the data in its predecessor, and it also includes material topics not previously discussed in the first edition, including methods protocols, cell line and animal models, and coverage of prebiotics. The editors supplement their expertise by bringing in international experts to contribute chapters. This second edition brings together the information needed for the successful development of a pro- or prebiotic product from laboratory to market.

**Probiotics in Pediatric Medicine**

This comprehensive, interdisciplinary book covers different aspects of relevant human pathogens and commensals. The ongoing development of (meta-)genomic, transcriptomic, proteomic and bioinformatic analyses of pathogenic and commensal microorganisms and their host interaction provides a comprehensive introduction to the microbiological analysis of host-microbe interplay and its consequences for infection or commensalism.

**MEDICAL AND HEALTH SCIENCES - Volume IX**

“This book reviews the recent advancements in the dairy industry and includes the latest scientific developments in regard to the 'functional' aspects of dairy and fermented milk products and their ingredients. Since the publication of the first edition of this text, there have been incredible advances in the knowledge and understanding of the human microbiota, mainly due to the development and use of new molecular analysis techniques”--

**Applied Biocatalysis**

Presenting the work of international experts who discuss all aspects of probiotics and prebiotics, this volume reviews current scientific understanding and research being conducted in this area. The book examines the sources and production of probiotics and prebiotics. It explores their use in gastrointestinal disorders, infections, cancer prevention, allergies, asthma, and other disorders. It also discusses the use of these supplements in infant, elderly, and animal nutrition, and reviews regulations and safety issues.
Handbook of Organic Food Safety and Quality

With the application of new analytical techniques, the field of food fermentation has grown in recent years. This book provides the latest information and relevant advances on the microbial ecology of fermented foods and the application of molecular methods. This book serves as a guide for students and researchers on the most advanced techniques to identify bacteria and helps in choosing the most appropriate tools to study fermented food from a microbiological point of view.

Lactic Acid Bacteria

Proceedings of “16th All India Congress of Zoology and National Symposium or Recent Advances in Animal Research with Special Emphasis on Invertebrates”, held at Dr. Babasaheb Ambedkar Marathwada University, Aurangabad during 21-23 October 2005.

Gut Insight

Dairy products have a prominent position in the development of functional foods. As understanding of the health benefits of dairy products increases and consumer awareness of these health benefits grows, demand for new and improved functional dairy products is likely to rise. Functional dairy products: Volume 2 reviews the latest developments in the field and their industrial applications. Part one outlines the health benefits of functional dairy products and their applications in areas such as weight management, child health and gut health. The second part of the book discusses various ingredients used in functional dairy products such as pro- and prebiotics, hypoallergenic hydrolysates and plant sterols and stanols. The final part of the book considers aspects of product development such as biomarkers and experimental models to investigate health benefits, genomics of probiotic microorganisms and functional dairy product regulation and safety. With its distinguished editor and collection of international authors, Functional dairy products: Volume 2, together with its companion volume, provides professionals and researchers within the field with an invaluable reference. Outlines the health benefits of functional dairy products, and their applications in areas such as weight management and gut health Discusses ingredients used in functional dairy products such as pro- and prebiotics Considers various aspects of product development

Encyclopedia of Biotechnology in Agriculture and Food

Provides insight into biopolymers, their physicochemical properties, and their biomedical and biotechnological applications This comprehensive book is a one-stop reference for the production, modifications, and assessment of biopolymers. It highlights the technical and methodological advancements in introducing biopolymers, their study, and promoted applications. "Biopolymers for Biomedical and Biotechnological Applications” begins with a general overview of biopolymers, properties, and biocompatibility. It then provides in-depth information in three dedicated sections: Biopolymers through Bioengineering and Biotechnology Venues; Polymeric Biomaterials with Wide Applications; and Biopolymers for Specific Applications. Chapters cover: advances in biocompatibility; advanced microbial polysaccharides; microbial cell factories for biomanufacturing of polysaccharides; exploitation of exopolysaccharides from lactic acid bacteria; and the new biopolymer for biomedical application called nanocellulose. Advances in mucin biopolymer research are presented, along with those in the synthesis of fibrous proteins and their applications. The book looks at microbial polyhydroxyalkanoates (PHAs), as well as natural and synthetic biopolymers in drug delivery and tissue engineering. It finishes with a chapter on the current state and applications of, and future trends in, biopolymers in regenerative medicine. * Offers a complete and thorough treatment of biopolymers from synthesis strategies and physicochemical properties to applications in industrial and medical biotechnology * Discusses the most attracted biopolymers with wide and specific applications * Takes a systematic approach to the field which allows readers to grasp and implement strategies for biomedical and biotechnological applications "Biopolymers for Biomedical and Biotechnological Applications” appeals to biotechnologists, bioengineers, and polymer chemists, as well as to those working in the biotechnological industry and institutes.

Probiotics and Prebiotics in Human Nutrition and Health

Medical and Health Sciences is a component of Encyclopedia of Biological, Physiological and Health Sciences in the global Encyclopedia of Life Support Systems (EOLSS), which is an integrated compendium of twenty one Encyclopedias. These volume set contains several chapters, each of size 5000-30000 words, with perspectives, applications and extensive illustrations. It carries state-of-the-art knowledge in the fields of Medical and Health Sciences and is aimed, by virtue of the several applications, at the following five major target audiences: University and College Students, Educators, Professional Practitioners, Research Personnel and Policy Analysts, Managers, and Decision Makers and NGOs

Advances in Applied Microbiology

Probiotics, Prebiotics, and Synbiotics: Bioactive Foods in Health Promotion reviews and presents new hypotheses and conclusions on the effects of different bioactive components of probiotics, prebiotics, and symbiotics to prevent disease and improve the health of various populations. Experts define and support the actions of bacteria; bacteria modified bioflavonoids and prebiotic fibrous materials and vegetable compounds. A major emphasis is placed on the health-promoting activities and bioactive components of probiotic bacteria. Offers a novel focus on synbiotics, carefully designed prebiotics probiotics combinations to help design functional food and nutraceutical products Discusses how prebiotics and probiotics are complementary and can be incorporated into food products and used as alternative medicines Defines the variety of applications of probiotics in health and disease resistance and provides key insights into how gut flora are modified by specific food materials Includes valuable information on how prebiotics are important sources of micro-and macronutrients that modify body functions
Lactic Acid Bacteria

This book focuses on probiotics as sustainable foods and medicines, discussing issues such as screening and identification of probiotics, health claims, and advances in processing technologies, as well as food safety. Based on sound scientific research, the book is a unique reference resource for food scientists interested in development of probiotic-based functional foods and their marketing. It will also appeal to those working in the area of regulations regarding the use of and health claims for fermented foods, both locally and globally.

Between Pathogenicity and Commensalism

Previous editions of Yoghurt: Science and Technology established the text as an essential reference underpinning the production of yoghurt of consistently high quality. The book has been completely revised and updated to produce this third edition, which combines coverage of recent developments in scientific understanding with information about established methods of best practice to achieve a comprehensive treatment of the subject. General acceptance of a more liberal definition by the dairy industry of the term yoghurt has also warranted coverage in the new edition of a larger variety of gelled or viscous fermented milk products, containing a wider range of cultures. Developments in the scientific aspects of yoghurt covered in this new edition include polysaccharide production by starter culture bacteria and its effects on gel structure, acid gel formation and advances in the analysis of yoghurt in terms of its chemistry, rheology and microbiology. Significant advances in technology are also outlined, for example automation and mechanisation. There has also been progress in understanding the nutritional profile of yoghurt and details of clinical trials involving yoghurts are described. This book is a unique and essential reference to students, researchers and manufacturers in the dairy industry. Includes developments in the understanding of the biochemical changes involved in yoghurt production Outlines significant technological advances in mechanisation and automation Discusses the nutritional value of yoghurt

Genetically Engineered Foods

Genetically Engineered Foods, Volume 6 in the Handbook of Food Bioengineering series, is a solid reference for researchers and professionals needing information on genetically engineered foods in human and animal diets. The volume discusses awareness, benefits vs. disadvantages, regulations and techniques used to obtain, test and detect genetically modified plants and animals. An essential resource offering informed perspectives on the potential implications of genetically engineered foods for humans and society. Written by a team of scientific experts who share the latest advances to help further more evidence-based research and educate scientists, academics and government professionals about the safety of the global food supply. Provides in-depth coverage of the issues surrounding genetic engineering in foods Includes hot topic areas such as nutragenomics and therapeutics to show how genetically engineered foods can promote health and potentially cure disease Presents case studies where genetically engineered foods can increase production in Third World countries to promote food security Discusses environmental and economic impacts, benefits and risks to help inform decisions

Lactic Acid Bacteria

An instructive and comprehensive overview of the use of biotechnology in agriculture and food production, Biotechnology in Agriculture and Food Processing: Opportunities and Challenges discusses how biotechnology can improve the quality and productivity of agriculture and food products. It includes current topics such as GM foods, enzymes, and prod

Biotechnology in Agriculture and Food Processing

Through four editions, Lactic Acid Bacteria: Microbiological and Functional Aspects, has provided readers with information on the how’s and why’s of lactic acid-producing fermentation improves the storability, palatability, and nutritive value of perishable foods. Thoroughly updated and fully revised, with 12 new chapters, the Fifth Edition covers regulatory aspects globally, new findings on health effects, properties and stability of LAB as well as production of target specific LAB. The new edition also addresses the technological use of LAB in various fermentations of food, feed and beverage, and their safety considerations. It features the detailed description of the main genera of LAB as well as such novel bacteria as fructophilic LAB and novel probiotics and discusses such new targets as cognitive function, metabolic health, respiratory health and probiotics. Key Features: In 12 new chapters, findings are presented on health effects, properties and stability of LAB as well as production of target specific LAB Covers such novel bacteria as fructophilic LAB and novel probiotics Presents new discoveries related to the mechanisms of lactic acid bacterial metabolism and function Covers the benefits of LAB, both in fermentation of dairy, cereal, meat, vegetable and silage, and their health benefits on humans and animals Discusses the less-known role of LAB as food spoilers Covers the global regulatory framework related to safety and efficacy

Exploring Bioinformatics

The Encyclopedia of Biotechnology in Agriculture and Food provides users with unprecedented access to nearly 200 entries that cover the entire food system, describing the concepts and processes that are used in the production of raw agricultural materials and food product manufacturing. So that users can locate the information they need quickly without having to flip through pages and pages of content, the encyclopedia avoids unnecessary complication by presenting information in short, accessible overviews. Addresses Environmental Issues & Sustainability in the Context of 21st Century Challenges Edited by a respected team of biotechnology experts, this unrivaled resource includes descriptions and interpretations of molecular biology research, including topics on the science associated with the cloning of animals, the genetic modification of plants, and the enhanced quality of foods. It discusses current and future applications of molecular biology, with contributions on disease resistance in animals, drought-resistant plants, and improved health of consumers via nutritionally enhanced foods. Uses Illustrations to Communicate Essential Concepts & Visually Enhance the Text This one-of-a-kind periodical
explains regulation associated with biotechnology applications—with specific attention to genetically modified organisms—regulation differences in various countries, and biotechnology’s impact on the evolution of new applications. The encyclopedia also looks at how biotechnology is covered in the media, as well as the biotechnology/environment interface and consumer acceptance of the products of biotechnology. Rounding out its solid coverage, the encyclopedia discusses the benefits and concerns about biotechnology in the context of risk assessment, food security, and genetic diversity. ALSO AVAILABLE ONLINE This Taylor & Francis encyclopedia is also available through online subscription, offering a variety of extra benefits for both researchers, students, and librarians, including: Citation tracking and alerts Active reference linking Saved searches and marked lists HTML and PDF format options For more information, visit Taylor & Francis Online or contact us to inquire about subscription options and print/online combination packages. US: (Tel) 1.888.318.2367 / (E-mail) e-reference@taylorandfrancis.com International: (Tel) +44 (0) 20 7017 6062 / (E-mail) online.sales@tandf.co.uk Dennis R. Heldman speaks about his work on the CRC Press YouTube Channel.

Probiotics and Prebiotics in Foods

Exploring Bioinformatics is a concise yet comprehensive textbook of bioinformatics that provides a broad introduction to the entire field. Written specifically for a life science audience, the basics of bioinformatics are explained, followed by discussions of the state-of-the-art computational tools available to solve biological research problems. All key areas of bioinformatics are covered including biological databases, sequence alignment, gene and promoter prediction, molecular phylogenetics, structural bioinformatics, genomics, and proteomics. The book emphasizes how computational methods work and compares the strengths and weaknesses of different methods. This balanced yet easily accessible text will be invaluable to students who do not have sophisticated computational backgrounds. Technical details of computational algorithms are explained with a minimum use of mathematical formulas; graphical illustrations are used in their place to aid understanding. The effective synthesis of existing literature as well as in-depth and up-to-date coverage of all key topics in bioinformatics make this an ideal textbook for all bioinformatics courses taken by life science students and for researchers wishing to develop their knowledge of bioinformatics to facilitate their own research.

Handbook of Probiotics and Prebiotics

Due to increasing consumer demand for safe, high quality, ethical foods, the production and consumption of organic food and produce has increased rapidly over the past two decades. In recent years the safety and quality of organic foods has been questioned. If consumer confidence and demand in the industry is to remain high, the safety, quality and health benefits of organic foods must be assured. With its distinguished editor and team of top international contributors, Handbook of organic food safety and quality provides a comprehensive review of the latest research in the area. Part one provides an introduction to basic quality and safety with chapters on factors affecting the nutritional quality of foods, quality assurance and consumer expectations. Part two discusses the primary quality and safety issues related to the production of organic livestock foods including the effects of feeding regimes and husbandry on dairy products, poultry and pork. Further chapters discuss methods to control and reduce infections and parasites in livestock. Part three covers the main quality and safety issues concerning the production of organic crop foods, such as agronomic methods used in crop production and their effects on nutritional and sensory quality, as well as their potential health impacts. The final part of the book focuses on assuring quality and safety throughout the food chain. Chapters focus on post-harvest strategies to reduce contamination of food and produce, and ethical issues such as fair trade products. The final chapters conclude by reviewing quality assurance strategies relating to specific organic food sectors. The Handbook of organic food quality and safety is a standard reference for professionals and producers within the industry concerned with improving and assuring the quality and safety of organic foods. Improve the safety, quality and health benefits of organic foods Discusses the latest research findings in this area Focuses on assuring quality and safety throughout the food chain

Probiotics and Prebiotics in Food, Nutrition and Health

Diet, Microbiome and Health, Volume 11, in the Handbook of Food Bioengineering series, presents the most up-to-date research to help scientists, researchers and students in the field of food engineering understand the different microbial species we have in our guts, why they are important to human development, immunity and health, and how to use that understanding to further promote research to create healthy food products. In addition, the book provides studies that clearly demonstrate how dietary preferences and social behavior significantly impact the diversity of microbial species in the gut and their numeric values, which may balance health and disease. Highlights research discoveries on how gut microbiota influence and are impacted by health and disease Includes information on and examples of healthy foods Discusses gut microbiota in autism, GI disease, neuropsychiatric disorders, obesity and metabolic disease Explores the barrier function of the gut Examines how food preferences impact gut microbiota

Probiotic Dairy Products

Composed of nearly a thousand different types of micro-organisms, some beneficial, others not, the human gut microbiota plays an important role in health and disease. This is due to the presence of probiotic or beneficial microbes, or due to the feeding of prebiotics that stimulate the endogenous beneficial microbes; these promote health by stimulating the immune system, improving the digestion and absorption of nutrients, and inhibiting the growth of pathogens. The notable health benefits of probiotic organisms have stimulated much commercial interest, which in turn has led to a plethora of research initiatives in this area; these range from studies to elucidate the efficacy of the various health benefits to analyses of the diet-microbe interaction as a means of modulating the gut microbiota composition. Research in this area is at a very exciting stage. With state-of-the-art commentaries on all aspects of probiotics and prebiotics research, this book provides an authoritative and timely overview of the field. Written by leading international researchers, each chapter affords a critical insight to a particular topic, reviews current research, discusses future direction and aims to stimulate discussion. Topics range from the different microorganisms used as probiotics (lactobacilli, bifidobacteria, yeast, etc) and techniques and approaches used (metagenomics, etc) to the reviews of the clinical and medical aspects. The provision of extensive reference sections positively encourages
readers to pursue each subject in greater detail. Containing 33 chapters, the book is an invaluable source of information and essential reading for everyone working with probiotics, prebiotics and the gut microbiota, from the PhD student to the experienced scientist, in academia, the pharmaceutical or biotechnology industries and working in clinical environments.

Functional Dairy Products

Published since 1959, Advances in Applied Microbiology continues to be one of the most widely read and authoritative review sources in Microbiology. The series contains comprehensive reviews of the most current research in applied microbiology. Recent areas covered include bacterial diversity in the human gut, protozoan grazing of freshwater biofilms, metals in yeast fermentation processes and the interpretation of host-pathogen dialogue through microarrays. Eclectic volumes are supplemented by thematic volumes on various topics including Archaea and “Sick Building Syndrome. Impact factor for 2003: 1.893

Probiotics, Prebiotics, and Synbiotics

Ongoing scientific research in many parts of the world on the genomics, proteomics and genetic engineering of LAB is increasing our understanding of their physiology, pushing further the boundaries for their potential applications. “Lactic Acid Bacteria - R

Mycoplasmas

Compiled by an expert editorial team with noteworthy and remarkable experience, this book covers technological aspects related to probiotics, not only in terms of delivery modes but also in terms of protection technologies. It includes discussions of their therapeutic and physiologic implications and benefits, and provides a contemporary update and a holistic review of the topic. It focuses on the technological aspects of probiotic products, brings together the information needed for their successful development, and examines the international picture regarding regulatory issues.

Advances in Probiotics

Gut Insight will teach you about probiotics (friendly bacteria) and prebiotics (fibers that feed those bacteria) and how they can positively influence your health. Positive effects include: enhanced immunity, reduction of pathogenic bacteria, increased mineral absorption, prevention of allergy, freedom from constipation, lactose intolerance, antibiotic-associated diarrhea, and irritable bowel. Learn what probiotics and prebiotics are, why they are necessary for gut health and immunity, which foods contain them, and how to integrate them into meals and snacks. You will find resources for shopping using natural foods and specialty probiotic foods. Our guide to prebiotic food sources, familiar and exotic, serves as a resource for using these plant foods. Web links help you to quickly find information on these foods.

Diet, Microbiome and Health

This reference book originates from the interdisciplinary research cooperation between academia and industry. In three distinct parts, latest results from basic research on stable enzymes are explained and brought into context with possible industrial applications. Downstream processing technology as well as biocatalytic and biotechnological production processes from global players display the enormous potential of biocatalysts. Application of “extreme” reaction conditions (i.e. unconventional, such as high temperature, pressure, and pH value) - biocatalysts are normally used within a well defined process window - leads to novel synthetic effects. Both novel enzyme systems and the synthetic routes in which they can be applied are made accessible to the reader. In addition, the complementary innovative process technology under unconventional conditions is highlighted by latest examples from biotech industry.

Advances in Probiotics for Sustainable Food and Medicine

Probiotics are products aimed at delivering living bacterial cells to the gut ecosystem of humans and other animals, whereas prebiotics are non-digestible carbohydrates delivered in food to the large bowel to provide fermentable substrates for selected bacteria. Food scientists and nutritionists have accepted, relatively uncritically, the concepts underlying the use of probiotics and prebiotics in the promotion of health. Microbiologists and medical practitioners have viewed these products more sceptically. Much more scientific and medical validation of probiotic/prebiotic use is required. This.

Probiotics and Prebiotics

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