

Bakery Technology And Engineering

The first book in this rapidly expanding area, Computer Vision Technology for Food Quality Evaluation thoroughly discusses the latest advances in image processing and analysis. Computer vision has attracted much research and development attention in recent years and, as a result, significant scientific and technological advances have been made in quality inspection, classification and evaluation of a wide range of food and agricultural products. This unique work provides engineers and technologists working in research, development, and operations in the food industry with critical, comprehensive and readily accessible information on the art and science of computer vision technology. Undergraduate and postgraduate students and researchers in universities and research institutions will also find this an essential reference source. · Discusses novel technology for recognizing objects and extracting quantitative information from digital images in order to provide objective, rapid, non-contact and non-destructive quality evaluation. · International authors with both academic and professional credentials address in detail one aspect of the relevant technology per chapter making this ideal for textbook use · Divided into three parts, it begins with an outline of the fundamentals of the technology, followed by full coverage of the application in the most researched areas of meats and other foods, fruits, vegetables and grains.

Today, bread supplies over half of the caloric intake of the world's population including a high proportion of the intake of Vitamins B and E. Bread therefore is a major food of the world. Bread was the main staples of the ancient Egyptian diet. Around 7,000 BC humans (probably Egyptians) somehow learned to grind grains in water and heat the mix on hot stoves to make unleavened bread. The art of bread making goes back to very early stages of different historical eras. Bread is an important part of the human diet, but for many people, it is much more than just providing macro- and micro-nutrients. Bread with their different types is influenced mainly by the nature of substrate and microorganisms involved in the fermentation. The components of bread depend on the type of bread and on practice and regulations operating in a country. They include basic components and other components (fortifying or enriching ingredients, emulsifiers, anti-fungal agents, anti-oxidants, enzymes and favoring agents, etc.). Bread and its Fortification for Nutrition and Health Benefits provides updated information in the area of bread and its fortification for health benefits. It serves as a useful reference book with recent advances in the areas of fermentation technology, bread microbiology, bread biotechnology, and bread biochemistry, which is related strongly to human health.

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.

The present book is an amalgamation of various topics which are quite relevant to academics pertaining to food science and technology. Sincere attempts have been made to map consumer's perception in terms of sensory evaluation of processed foods

and their role on quality determination. To cover food safety, the topic of advancement in the traceability and transparency of food supply chain is discussed in length. Besides, providing basic nutrition food has become an essential source of health promoting phyto-ingredients too. To take care of the concerned population, therapeutic, functional and nutraceutical foods have also been discussed with their future trends. To give impetus to the growing and aged generations, the importance of the technology of weaning and geriatric foods is described in detail. Bio-preservation of various food products including fermentation had always attracted researchers for various reasons, inclusive of its novel and chemical free approach of preservation which has been aptly covered under current expansions in microbiology for food preservation and also under progression in biotechnology and its application in food processing. The cross linkage of advance technologies inclusive of nano-science is elaborated as technological advances in nano- science for specific food and nutrition delivery. Oil and spice commerce are two giants pillars in food processing industries and readers would surely be wishing to understand the developments in the technology of oils refineries and condiments. Smart and intelligent packing systems always extend an upper hand as far as shelf life monitoring of any processed food is concerned, especially when these are import worthy products. The science and technological approach of these packing innovations is also well covered. Note: T&F does not sell or distribute the hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka. This title is co-published with NIPA.

Most baking books do not focus on the simultaneous heat and mass transfer that occurs in the baking process, thereby ignoring a fundamental facet of process and product development. Addressing the engineering and science elements often ignored in current baking books, *Food Engineering Aspects of Baking Sweet Goods* explores important topics in understanding the baking process and reviews recent technological advances. With contributions from various international authorities on food science, engineering, and technology, the book covers the rheology of cake batter and cookie dough, cake emulsions, the physical and thermal properties of sweet goods, and heat and mass transfer during baking. It also presents the science of soft wheat products, including the quality of soft wheat, the functions of ingredients in the baking of sweet goods, and the chemical reactions during processing. In addition, the contributors discuss cake and cookie technologies as well as recent advances in baking soft wheat products. The final chapter examines the nutritional issues of consuming fats and sugars and presents general strategies for substituting fats and sugars in baked products. Taking an engineering approach to the field, this volume delineates the complex food process of baking, from ingredients to production to finished product.

The many benefits of home flour milling include taste and flavor and the appeal of making a healthy food that tastes good and is seriously nutritious. Home ground flour milling can also save countless dollars just in the cost of bread alone, especially for those with special dietary needs and restrictions, and improved health leads to reduced medical costs. This comprehensive how-to details the whole process behind home flour milling with features such as: The history of whole grains and grain anatomy Benefits of commercially milled flour vs home milled flour Tools and equipment for home flour milling Baking basics including mixing methods and techniques -- the importance of gluten and moisture Going with the grains -- a thorough description of grains such as

barley, rye, kamut and buckwheat Nut flours such as almond Baking with freshly milled grains. There are also 100 recipes for tasty quick breads, rolls and buns, muffins, pancakes, coffee cakes, biscuit and scones, cookies, brownies and pastries, plus others that are gluten-free, dairy-free and vegan. The Home Ground Flour Book is ideal for anyone who wants to create their own flours. This book volume sheds light on the health benefits of selected cereal grains, processing technologies of cereals, specific roles of bioactive compounds of cereals in chronic disease prevention, and traditional and latest technologies to improve the functional benefits of cereal-based products. It presents a thorough review of the functional components of some lesser known or forgotten cereals and their role in maintaining good health. With advancements in cereal science and technology, new methods of processing have emerged that help to preserve or even enhance the health-benefitting properties of cereal grains. Further, plant breeding and biotechnology have contributed greatly in improving nutritional quality and functionality of these grains. This book provides comprehensive information on the simple as well as advanced methodologies for enhancing the properties of cereals that benefit human health. Some new approaches such as bio-fortification and extraction of bioactives from cereals are also included in the text.

Biscuit, Cookie, and Cracker Production: Process, Production, and Packaging Equipment is a practical reference that brings a complete description of the process and equipment necessary for automated food production in the food/biscuit industry. The book describes the existing and emerging technologies in biscuit making and production, bringing a valuable asset to R&D personnel and students in food technology and engineering areas. Full of clear illustrations, photos and text describing types of biscuits, cookies and crackers, ingredients, test bakery equipment, dough piece forming, biscuit baking ovens, biscuit cooling and handling, and processing and packaging, this book presents a timely resource on the topic. Covers the complete processed food production line, from raw materials to packaged product Shows, in detail, the process, production and packaging equipment for biscuits, cookies and crackers Provides an understanding of the development from a manual artisan process to a fully automated, high-volume production process Brings more than 200 pictures of biscuits, cookies and crackers, along with machinery

Baking Problems Solved, Second Edition, provides a fully revised follow-up to the innovative question and answer format of its predecessor. Presenting a quick bakery problem-solving reference, Stanley Cauvain returns with more practical insights into the latest baking issues. Retaining its logical and methodical approach, the book guides bakers through various issues which arise throughout the baking process. The book begins with issues found in the use of raw materials, including chapters on wheat and grains, flour, and fats, amongst others. It then progresses to the problems that occur in the intermediate stages of baking, such as the creation of doughs and batters, and the input of water. Finally, it delves into the difficulties experienced with end products in baking by including chapters on bread and fermented products, cakes, biscuits, and cookies and pastries. Uses a detailed and clear question and answer format that is ideal for quick

reference Combines new, up-to-date problems and solutions with the best of the previous volume Presents a wide range of ingredient and process solutions from a world-leading expert in the baking industry

This is a completely revised and updated edition of the comprehensive and widely used survey of cereal technology. The first section describes the botany, classification, structure, composition, nutritional importance and uses of wheat, corn, oats, rye, sorghum, rice and barley, as well as six other grains. The book also details the latest methods of producing, cleaning, and storing these grains. The second section of the book offers current information on the technological and engineering principles of feed milling, flour milling, baking, malting, brewing, manufacturing breakfast cereals, snack food production, wet milling (starch and oil production from grains), rice processing, and other upgrading procedures applied to cereal grains. This section also explains the value and utilization of by-products and examines many rarely discussed processing methods. In addition, the book provides reviews of current knowledge on the dietary importance of cereal proteins, lipids, fibre, vitamins, minerals, and anti-nutrient factors, as well as the effects of processing methods on these materials.

Ever wondered why bread rises? Or why dough needs to rest? From cakes and biscuits to flat breads and standard loaves, the diversity of products is remarkable and the chemistry behind these processes is equally fascinating. The Science of Bakery Products explains the science behind bread making and other baked goods. It looks at the chemistry of the ingredients, flour treatments, flour testing and baking machinery. Individual chapters focus on the science of breads, pastry, biscuits, wafers and cakes. The book concludes with a look at some experiments and methods and goes on to discuss some ideas for the future. The Science of Bakery Products is an interesting and easy to read book, aimed at anyone with an interest in everyday chemistry.

Food processing technologies are an essential link in the food chain. These technologies are many and varied, changing in popularity with changing consumption patterns and product popularity. Newer process technologies are also being evolved to provide the added advantages. Conventional and Advanced Food Processing Technologies fuses the practical (application, machinery), theoretical (model, equation) and cutting-edge (recent trends), making it ideal for industrial, academic and reference use. It consists of two sections, one covering conventional or well-established existing processes and the other covering emerging or novel process technologies that are expected to be employed in the near future for the processing of foods in the commercial sector. All are examined in great detail, considering their current and future applications with added examples and the very latest data. Conventional and Advanced Food Processing Technologies is a comprehensive treatment of the current state of knowledge on food processing technology. In its extensive coverage, and the selection of reputed research scientists who have contributed to each topic, this book will be

a definitive text in this field for students, food professionals and researchers.

Taking a fresh approach to information on baked products, this exciting new book from industry consultants Cauvain and Young looks beyond the received notions of how foods from the bakery are categorised to explore the underlying themes which link the products in this commercially important area of the food industry. First establishing an understanding of the key characteristics which unite existing baked product groups, the authors move on to discuss product development and optimisation, providing the reader with coverage of: Key functional roles of the main bakery ingredients Ingredients and their influences Heat transfer and product interactions Opportunities for future product development Baked Products is a valuable practical resource for all food scientists and food technologists within bakery companies, ingredient suppliers and general food companies. Libraries in universities and research establishments where food science and technology is studied and taught will find the book an important addition to their shelves.

Food Microstructure and Its Relationship with Quality and Stability is a comprehensive overview of the effects that the properties of the underlying structures of food have on its perceived quality to the consumer. The book's first section consists of chapters outlining the fundamentals of food microstructure, food composition, molecular mobility of various food constituents, and their relationships with food quality and stability. The role of various processing technologies in the production of specific microstructures for enhanced quality and stability is outlined. The second part of the book consists of various chapters devoted to microstructures, constituents and their relationship with quality, functionality, and stability of selected foods, for example, food hydrocolloids, frozen seafood, dried foods, extruded products, and dietary fibers. This information is of paramount importance for both academic researchers in the areas of food quality, preservation, and stability, as well as for food developers and processors. Brings together leading experts from around the world to provide the latest information on a topic essential to the quality of food products Includes dedicated chapters covering the microstructure of specific products and its relationship to quality and stability, making this book ideal for those working in industry Provides a single reference source for a topic of great importance to a number of fields within both academic and industrial food sciences – food quality, stability, processing, and engineering

A new study of the challenges presented by manufacturing bakery products in a health-conscious world The impact of bakery products upon human nutrition is an increasingly pressing concern among consumers and manufacturers alike. With obesity and other diet-related conditions on the rise, the levels of salt, fat, and sugar found in many baked goods can no longer be overlooked. Those working in the baking industry are consequently turning more and more to science and technology to provide routes toward healthier alternatives to classic cake, bread, and pastry recipes. With Baking Technology and Nutrition, renowned food scientist Stanley P. Cauvain and co-author Rosie H. Clark present an innovative and much-needed study of the changes taking place in the world of baking. Their discussion focuses on the new avenues open to bakers looking to improve the nutritional value of their products and encompasses all related issues, from consumer

preferences to the effects of nutritional enhancement upon shelf-life. Featuring an abundance of new research and insights into the possible future of modern baking, this unique text: Offers practical guidance on developing, delivering, and promoting high-nutrition bakery products Discusses reducing ingredients such as salt, fat, and sugar for improved nutrition while preserving quality and consumer acceptability Explores how wheat-based products can be ideal vehicles for improving the nutrition of major sectors of populations Suggests real-world solutions to problems rising from poorly defined quality guidelines and inadequate dialogue between bakers and nutritionists Baking Technology and Nutrition is an indispensable and timely resource for technologists, manufacturers, healthcare practitioners, or anyone else working in today's food and nutrition industries.

Not another book on breadmaking! A forgivable reaction given the length of time over which bread has been made and the number of texts which have been written about the subject. To study breadmaking is to realize that, like many other food processes, it is constantly changing as processing methodologies become increasingly more sophisticated, yet at the same time we realize that we are dealing with a food stuff, the forms of which are very traditional. We can, for example, look at ancient illustrations of breads in manuscripts and paintings and recognize products which we still make today. This contrast of ancient and modern embodied in a single processed foodstuff is part of what makes bread such a unique subject for study. We cannot, for example, say the same for a can of baked beans! Another aspect of the uniqueness of breadmaking lies in the requirement for a thorough understanding of the link between raw materials and processing methods in order to make an edible product. This is mainly true because of the special properties of wheat proteins, aspects of which are explored in most of the chapters of this book. Wheat is a product of the natural environment, and while breeding and farming practices can modify aspects of wheat quality, we millers and bakers still have to respond to the strong influences of the environment.

Many factors are relevant in making the proper choice of food packaging material, including those related to shelf life and biodegradability. To meet these demands, new processing and preservation techniques have arisen, most notably modified atmosphere packaging (MAP) and active packaging (AP). Modified Atmosphere and Active Packaging Technologies presents an overview of the current status of MAP and AP, exploring techniques, methodologies, applications, and relevant legislation. For clarity and easy reference, the book is divided into seven convenient sections: Principles, Materials, Gases, and Machinery for MAP provides a basic overview of the topic and defines modified atmosphere, controlled atmosphere, and active packaging. Safety and Quality Control of MAP Products examines the effect of MAP on various foods and discusses governmental control mechanisms to ensure food safety. Applications of MAP in Foods of Animal Origin explores how MAP can be used in fish, meat, poultry and dairy products. Applications of MAP in Foods of Plant Origin discusses MAP for cereals, minimally processed vegetables, fruits, and bakery products. Other Applications of MAP reviews MAP's use in ready-to-eat (RTE) foods and coffee, tea, beer, and snack foods. Active Packaging and its New Trends examines issues related to nanotechnology and bioactive packaging. Consumer Behavior/Sensory Analysis and Legislation covers legislation in the European Union, the United States, and Canada and presents conclusions and new issues on the horizon. From the very basics (films, gases, techniques, and applications) up to the latest advances (nanotechnology and bioactive compounds), this book covers nearly all issues related to MAP and AP, providing an essential reference for food scientists and engineers, agriculturalists, chemists, and all those on the cutting edge of food packaging.

This book surveys the functions and applications of additives used in baked foods at relatively low levels, details their reaction mechanisms and describes their technological effects, including how each additive helps to create high-quality baked products. Coverage includes oxidants, reductants and mix reducers, surfactants, emulsifiers and dough strengtheners, chemical leavenings, yeast, and gluten and gums.

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The author presents product applications and covers such important new areas as high fibre breads, enzymes in baking, the use of emulsifiers and vital wheat gluten manufacture.

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

Water is the major contributor to the eating and keeping qualities and structure of baked products. Its management and control during preparation, processing, baking, cooling and storage is essential for the optimisation of product quality. This successful and highly practical volume describes in detail the role and control of water in the formation of cake batters, bread, pastry and biscuit doughs, their subsequent processing and the baked product. Now in a fully revised and updated second edition, the book has been expanded and developed through the inclusion of new information and references related to the formation and processing of batters and dough into baked products. The new edition includes a selection of case studies based on practical experience in the manufacture and optimisation of baked products. Each case study, illustrated as appropriate, considers the various roles that water may play in different manufacturing contexts. The book is aimed at food scientists and technologists in bakery companies; ingredient suppliers; flour millers; researchers and students in academic food science departments.

The author's aim in writing this book is to integrate currently available knowledge concerning the basic scientific and technological aspects of breadmaking processes with the diverse breadmaking methods used to manufacture bread in Europe and on the North American continent today. To date, the main technological advances have been in process mechanization, starting with oven development, then dough processing or make-up equipment, followed by continuous and batch mixing techniques from the 1950s to the present time. On the engineering side, universal emphasis is now being placed on the application of high technology, in the form of microprocessors, computer-controlled equipment and robotization, the long-term objective being computer integrated manufacture (CIM) with full automation within the large chain bakery groups in the capitalist countries and the state-run collectives of Eastern Europe. The application of these key technologies with biotechnology, as yet only applied to a limited degree in food manufacture, coupled with advances in biochemical and rheological understanding of dough as a biomass for breadmaking, should provide us with more expertise and ability to control the processes with greater efficiency. The application of fermentable substrates and industrial enzymes under strict kinetic control should contribute to improving the flavour characteristics of bread. Current trends towards improving the nutritional contribution of bread to the daily diet are improving the competitive edge of bread as a basic food in the market-place.

The Technology of Wafers and Waffles: Operational Aspects is the definitive reference book on wafer and waffle technology and manufacture. It covers specific ingredient technology (including water quality, wheat flour, starches, dextrans, oils and fats) and delves extensively into the manufacturing elements and technological themes in wafer manufacturing, including no/low sugar wafers, hygroscopic wafers, fillings and enrobing. The book explains, in detail, operating procedures such as mixing, baking, filling, cooling, cutting and packaging for every type of wafer: flat and shaped wafers for making biscuits, ice cream cones, cups, wafer reels, wafer sticks (flute wafers) and biscuit wafers. It also explores the various types of European (Belgian) waffles and North American frozen waffles. Serves as a complete reference book on wafer and waffle technology and manufacturing, the first of its

kind Covers specific ingredient technology such as water quality, wheat flour, starches, dextrans, oils and fats for wafer and waffles
Explores wafer and waffle product types, development, ingredients, manufacturing and quality assurance Explains the scientific background of wafer and waffle baking Informs both artisan and industrial bakers about many related areas of bakery product manufacturing

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

One of the most rapidly growing segments in the food industry is gluten-free baked products. These goods not only cater to those with medical needs, from celiac disease to gluten intolerance; they also cater to the millions of individuals who seek a gluten-free diet. *Gluten-Free Baked Products* is a practical guide on the development, manufacturing, and marketing of gluten-free baked products. The book gives readers an entry-level understanding of gluten-free product requirements, their production, and the breadth of ingredients available to baked product developers. This highly relevant book was written as an initial reference for food scientists, including those who need an introduction to gluten-free product development. It was also written as a general reference to those who are indirectly involved with gluten-free products, such as marketers, consultants, and quality assurance and regulatory professionals. Nutrition enthusiasts and consumers following a gluten-free diet for medical reasons will also find this book useful. *Gluten-Free Baked Products* can serve as a supplemental resource for students and faculty of general food science courses, as well as those covering product development, food allergies, and autoimmune conditions. Whether you are a student, professional in the food industry, or nutrition enthusiast, this book offers an easy way to understand the complex world of gluten-free baking Coverage includes: A detailed discussion on celiac disease, wheat allergies, and gluten intolerance, including symptoms, diagnosis, and nutritional deficiencies A marketing perspective on the consumer segments of gluten-free products, as well as the market size and growth trends Formulations and processing of gluten-free breads, snacks, and pasta products, as well as cookies, cakes, and other batter-based products Manufacturing and supply chain best practices, certification procedures, regulations, and labeling requirements A comprehensive discussion of the ingredients used when formulating gluten-free products, including flours, starches, maltodextrins, corn/maize, millet, oats, rice, sorghum, teff, pseudocereals, inulin, tubers, legumes, noncereal proteins, enzymes, and gums/hydrocolloids

When Ellie, who loves to invent and build things, decides to build a doghouse as a gift, she needs to get past the boys-against-the-girls neighborhood feud and ask for help.

Food Engineering Handbook: Food Process Engineering addresses the basic and applied principles of food engineering methods used in food processing operations around the world. Combining theory with a practical, hands-on approach, this book examines the thermophysical properties and modeling of selected processes such as chilling, freezing, and dehydration. A complement to *Food Engineering Handbook: Food Engineering Fundamentals*, this text: Discusses size reduction, mixing, emulsion, and

encapsulation Provides case studies of solid–liquid and supercritical fluid extraction Explores fermentation, enzymes, fluidized-bed drying, and more Presenting cutting-edge information on new and emerging food engineering processes, Food Engineering Handbook: Food Process Engineering is an essential reference on the modeling, quality, safety, and technologies associated with food processing operations today.

Bakery products, due to great nutrient value and affordability, are an element of huge consumption. Due to the rapidly increasing population, the rising foreign influence, the emergence of a working population and the changing eating habits of people, they have gained popularity among people, causing significantly to the growth trajectory of the bakery industry. The Handbook of Bakery and Confectionery delineates a theoretical and practical knowledge on bakery and confectionery. Chapter 1-21: This part deals with basic concepts in baking and includes chapters on all bakery ingredients and their functions, bakery products in the baking industry. Chapter 22-23: This section provides an affluent information about production of various chocolates and toffees. Note: T&F does not sell or distribute the hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka.

The creator of the New York Times bestselling *The Bear Ate Your Sandwich* brings us another sly story of a hungry bear and a smooth-talking narrator. A tough gumshoe of a cat--the name's Muffin--protects his territory: The Little Bear Bakery. But there are no bears here. Not on Muffin's watch. One night, Muffin hears a suspicious noise. Mouse? Raccoon? Bat? Nope, not the usual suspects. But Muffin hears . . . growling. Could it be? Yup. A bear. Just a cub. Whose stomach is definitely growling. Muffin's got this case solved--clearly this bear needs some donuts. In this wonderfully noir-tinged tale, Julia Sarcone-Roach gives us another funny story of a hungry bear in the wrong place at the right time. This tale is sly and sweet, with sprinkles on top. "This delightful caper calls out for multiple readings."—New York Times

The popularity of the 1973 fifth edition of *The Technology of Cake Making* has continued in many of the English-speaking countries throughout the world. This sixth edition has been comprehensively revised and brought up to date with new chapters on Cream, butter and milkfat products, Lactose, Yeast aeration, Emulsions and emulsifiers, Water activity and Reduced sugar Eggs and egg products, Baking fats, and lower fat goods. The chapters on Sugars, Chemical aeration, Nuts in confectionery, Chocolate, Pastries, Nutritional value and Packaging have been completely rewritten. The increased need for the continuous development of new products does not of necessity mean that new technology has to be constantly introduced. Many of the good old favourites may continue to be produced for many years and they form suitable 'bench marks' for new product development. The sixth edition introduces the use of relative density to replace specific volume as a measure of the amount of aeration in a cake batter (the use of relative density is in line with international agreement). Specific volume is kept as a measurement of baked product volume since the industry is comfortable with the concept that, subject to an upper limit, an increase in specific volume coincides with improvement in cake quality.

Coeliac disease (CD) and other allergic reactions/intolerances to gluten are on the rise, largely due to improved diagnostic procedures and changes in eating habits. The worldwide incidence of coeliac disease has been predicted to increase by a factor of ten over the next number of years, and this has resulted in a growing market for high quality gluten-free cereal products. However, the removal of gluten presents major problems for bakers. Currently, many gluten-free products on the market are of low quality and short shelf life, exhibiting poor mouthfeel and

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flavour. This challenge to the cereal technologist and baker alike has led to the search for alternatives to gluten in the manufacture of gluten-free bakery products. This volume provides an overview for the food industry of issues related to the increasing prevalence of coeliac disease and gluten intolerance. The properties of gluten are discussed in relation to its classification and important functional characteristics, and the nutritional value of gluten-free products is also addressed. The book examines the diversity of ingredients that can be used to replace gluten and how the ingredient combinations and subsequent rheological and manufacturing properties of a range of gluten-free products, e.g. doughs, breads, biscuits and beer may be manipulated. Recommendations are given regarding the most suitable ingredients for different gluten-free products. The book is directed at ingredient manufacturers, bakers, cereal scientists and coeliac associations and societies. It will also be of interest to academic food science departments for assisting with undergraduate studies and postgraduate research. The Author Dr Eimear Gallagher, Ashtown Food Research Centre, Teagasc - The Irish Agriculture and Food Development Authority, Dublin, Ireland Also available from Wiley-Blackwell Management of Food Allergens Edited by J. Coutts and R. Fielder ISBN 9781405167581 Bakery Manufacture and Quality - Water Control and Effects Second Edition S. Cauvain and L. Young ISBN 9781405176132 Whole Grains and Health Edited by L. Marquart et al ISBN 9780813807775

This book provides a comprehensive source of information on freezing and frozen storage of food. Initial chapters describe the freezing process and provide a fundamental understanding of the thermal and physical processes that occur during freezing. Experts in each stage of the frozen cold chain provide, within dedicated chapters, guidelines and advice on how to freeze food and maintain its quality during storage, transport, retail display and in the home. Individual chapters deal with specific aspects of freezing relevant to the main food commodities: meat, fish, fruit and vegetables. Legislation and new freezing processes are also covered. Frozen Food Science and Technology offers in-depth knowledge of current and emerging refrigeration technologies along the entire frozen food chain, enabling readers to optimise the quality of frozen food products. It is aimed at food scientists, technologists and engineers within the frozen food industry; frozen food retailers; and researchers and students of food science and technology.

Biscuit Baking Technology, Second Edition, is a reference book for senior managers and staff involved in industrial scale biscuit baking. It covers the biscuit industry process, ingredients, formulations, besides design, manufacture, installation, operation and maintenance of the baking ovens. Written by an expert on the biscuit baking industry, the book is a complete manual guide that will help engineering, production and purchasing managers and staff in the biscuit industry to make the best decisions on oven efficiency purchasing. Thoroughly explores the engineering of baking, details biscuit baking equipments, oven specifications, installation, operation and maintenance The second edition expands chapters 1 to 3, detailing basic biscuit process, product range, ingredients and process changes during baking. All the chapters have been reorganized and updated Provides details of best industry practice for safety, hygiene and maintenance of ovens Contains explanations of heat transfer and all the types of biscuit oven design with clear pictures and drawings Gathers all the information on how to select and specify an oven to be purchased for a particular range of biscuits

Enrobed and filled confectionery and bakery products, such as praline-style chocolates, confectionery bars and chocolate-coated biscuits and ice-creams, are popular with consumers. The coating and filling can negatively affect product quality and shelf-life, but with the correct product design and manufacturing technology, the characteristics of the end-product can be much improved. This book provides a comprehensive overview of quality issues affecting enrobed and filled products and strategies to enhance product quality. Part one reviews the formulation of coatings and fillings, with chapters on key topics such as chocolate manufacture, confectionery fats, compound coatings

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and fat and sugar-based fillings. Product design issues, such as oil, moisture and ethanol migration and chocolate and filling rheology are the focus of Part two. Shelf-life prediction and testing are also discussed. Part three then covers the latest ingredient preparation and manufacturing technology for optimum product quality. Chapters examine tempering, enrobing, chocolate panning, production of chocolate shells and deposition technology. With its experienced team of authors, Science and technology of enrobed and filled chocolate, confectionery and bakery products is an essential purchase for professionals in the chocolate, confectionery and bakery industries. Provides a comprehensive review of quality issues affecting enrobed and filled products Reviews the formulation of coatings and fillings, addressing confectionery fats, compound coatings and sugar based fillings Focuses on product design issues such as oil, moisture and chocolate filling rheology

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