

## Industrial Chocolate Manufacture And Use 4th Edition

Explains the traditional history of chocolate, with recipes.

A compilation of 58 carefully selected, topical articles from the Ullmann's Encyclopedia of Industrial Chemistry, this three-volume handbook provides a wealth of information on economically important basic foodstuffs, raw materials, additives, and processed foods, including a section on animal feed. It brings together the chemical and physical characteristics, production processes and production figures, main uses, toxicology and safety information in one single resource. More than 40 % of the content has been added or updated since publication of the 7th edition of the Encyclopedia in 2011 and is available here in print for the first time. The result is a "best of Ullmann's", bringing the vast knowledge to the desks of professionals in the food and feed industries.

This Guide describes trade and industry practices, including regulations that apply to the cocoa business. It discusses customs procedures, systems and techniques used at each stage of the cocoa supply chain, trends in cocoa manufacturing and processing, electronic commerce, cocoa organic farming, fair trade, sustainable production and environmental issues. It also provides a list of the main sector-related trade and industry associations and includes appendices that contain detailed statistical data and list of relevant Internet websites.

Emulsifiers, also known as surfactants, are often added to processed foods to improve stability, texture, or shelf life. These additives are regulated by national agencies, such as the FDA, or multi-national authorities, such as the EEC or WHO. The amphiphilic molecules function by assisting the dispersion of mutually insoluble phases and stabilizing the resulting colloids, emulsions, and foams. Emulsifiers can interact with other food components such as carbohydrates, proteins, water, and ions to produce complexes and mesophases. These interactions may enhance or disrupt structures and affect functional properties of finished foods. In dairy processing, small molecule emulsifiers may displace dairy proteins from oil/water and air/water interfaces, which affects stability and properties of the foams and emulsions. In baked products, emulsifiers contribute to secondary functionalities, such as dough strengthening and anti-staling. Synthetic food emulsifiers suffer from the stigma of chemical names on a product's ingredient statement. Modern consumers are seeking products that are "all natural." Fortunately, there are a number of natural ingredients that are surface-active, such as lecithin, milk proteins, and some protein-containing hydrocolloids. Mayonnaise, for example, is stabilized by egg yolk. This book can serve as both a guide for professionals in the food industry to provide an understanding of emulsifier functionality, and a stimulus for further innovation. Students of food science will find this to be a valuable resource.

The second edition of this book achieved worldwide recognition within the chocolate and confectionery industry. I was pressed to prepare the third edition to include modern developments in machinery, production, and packaging. This has been a formidable task and has taken longer than anticipated. Students still require, in one book, descriptions of the fundamental principles of the industry as well as an insight into modern methods. Therefore, parts of the previous edition describing basic technology have been retained, with minor alterations where necessary. With over fifty years' experience in the industry and the past eighteen years working as an author, lecturer, and consultant, I have collected a great deal of useful information. Visits to trade exhibitions and to manufacturers of raw materials and machinery in many parts of the world have been very valuable. Much research and reading have been necessary to prepare for teaching and lecturing at various colleges, seminars, and manufacturing establishments. The third edition is still mainly concerned with science, technology, and production. It

is not a book of formulations, which are readily available elsewhere. Formulations without knowledge of principles lead to many errors, and recipes are given only where examples are necessary. \_ Analytical methods are described only when they are not available in textbooks, of which there are many on standard methods of food analysis. Acknowledgments I am still indebted to many of the persons mentioned under "Acknowledgments" in the second edition. I am especially grateful to the following.

'There are suprising few books on the subject of chocolate manufacture, and this volume will undoubtedly continue to lead the field'--Trends in Food Science and Technology.

From nationally-lauded San Francisco chocolate maker, Dandelion Chocolate, comes the first ever complete guide to making chocolate from scratch. From the simplest techniques and technology—like hair dryers to rolling pins—to the science and mechanics of making chocolate from bean to bar, Making Chocolate holds everything the founders and makers behind San Francisco's beloved chocolate factory have learned since the day they first cracked open a cocoa bean. Best known for their single origin chocolate made with only two ingredients—cocoa beans and cane sugar—Dandelion Chocolate shares all their tips and tricks to working with cocoa beans from different regions around the world. There are kitchen hacks for making chocolate at home, a deep look into the nuts, bolts, and ethics of sourcing beans and building relationships with producers along the supply chain, and for ambitious makers, tips for scaling up. Complete with 30 recipes from the chocolate factory's much-loved pastry kitchen, Making Chocolate is a resource for hobbyists and more ambitious makers alike, as well as anyone looking for maybe the very best chocolate chip cookie recipe in the world.

This book has been considered by academicians and scholars of great significance and value to literature. This forms a part of the knowledge base for future generations. So that the book is never forgotten we have represented this book in a print format as the same form as it was originally first published. Hence any marks or annotations seen are left intentionally to preserve its true nature.

This is the definitive, illustrated guide to Chocolate. Beginning 3,000 years ago in the Mexican jungles, it goes on to investigate archaeology, history, botany and socio-economics, and follows the story from the Aztecs up to today's mass-produced chocolate and its luxury versions. A treat, not just for chocoholics but for anyone who enjoys lively, thorough historical research. Sophie D. Coe, anthropologist and food historian, was also the author of 'Americas First Cuisines'.

This book examines both the primary ingredients and the processing technology for making candies. In the first section, the chemistry, structure, and physical properties of the primary ingredients are described, as are the characteristics of commercial ingredients. The second section explores the processing steps for each of the major sugar confectionery groups, while the third section covers chocolate and coatings. The manner in which ingredients function together to provide the desired texture and sensory properties of the product is analyzed, and chemical reactions and physical changes that occur during processing are examined. Trouble shooting and common problems are also discussed in each section. Designed as a complete reference and guide, Confectionery Science and Technology provides personnel in industry with solutions to the problems concerning the manufacture of high-quality confectionery products.

The Mesoamerican population who lived near the indigenous cultivation sites of the "Chocolate Tree" (*Theobroma cacao*) had a multitude of documented applications of chocolate as medicine, ranging from alleviating fatigue to preventing heart ailments to treating snakebite. Until recently, these applications have received little sound scientific scrutiny. Rather, it has been the reputed health claims stemming from Europe and the United States which have attracted considerable biomedical attention. This book, for the first time, describes the centuries-long quest to uncover chocolate's potential health benefits. The authors explore variations in the types of evidence used to support chocolate's use as

medicine as well as note the ongoing tension over categorizing chocolate as food or medicine, and more recently, as functional food or nutraceutical. The authors, Wilson an historian of science and medicine, and Hurst an analytical chemist in the chocolate industry, bring their collective insights to bear upon the development of ideas and practices surrounding the use of chocolate as medicine. Chocolate's use in this manner is explored first among the Mesoamerican peoples, then as it is transported to Europe, and back into Colonial North America. The authors then focus upon more recent bioscience experimental undertakings which have been aimed to ascertain both long-standing and novel suggestions as to chocolate's efficacy as a medicinal and a nutritional substance. Chocolate/s reputation as the most craved food boosts this book's appeal to food and biomedical scientists, cacao researchers, ethnobotanists, historians, folklorists, and healers of all types as well as to the general reading audience.

This work has been selected by scholars as being culturally important and is part of the knowledge base of civilization as we know it. This work is in the public domain in the United States of America, and possibly other nations. Within the United States, you may freely copy and distribute this work, as no entity (individual or corporate) has a copyright on the body of the work. Scholars believe, and we concur, that this work is important enough to be preserved, reproduced, and made generally available to the public. To ensure a quality reading experience, this work has been proofread and republished using a format that seamlessly blends the original graphical elements with text in an easy-to-read typeface. We appreciate your support of the preservation process, and thank you for being an important part of keeping this knowledge alive and relevant.

The extraordinary and dramatic story of the chocolate pioneers—as told by one of the descendants of the Cadbury dynasty—ending with Kraft's recent takeover of the empire. With a cast of characters straight from a Victorian novel, *Chocolate Wars* tells the story of the great chocolatier dynasties—the Lindts, Frys, Hersheys, Marses and Nestlés—through the prism of the Cadburys. Chocolate was consumed unrefined and unprocessed as a rather bitter, fatty drink for the wealthy elite until the late 19th century, when the Swiss discovered a way to blend it with milk and unleashed a product that would storm every market in the world. Thereafter, one of the great global business rivalries unfolded as each chocolate maker attempted to dominate its domestic market and innovate recipes for chocolate that would set it apart from its rivals. The contest was full of dramatic contradictions: the Cadburys were austere Quakers who found themselves making millions from an indulgent product; Kitty Hershey could hardly have been more flamboyant, yet her husband was moved by the Cadburys' tradition of philanthropy. Each company was a product of its unique time and place, yet all of them shared one thing: they want to make the best chocolate in the world. *Chocolate Wars* divulges the visions and ideals that inspired these royal chocolate families and, above all, the mouth-watering chocolate concoctions they created that have driven a global transformation of one of our favourite treats. And with the recent purchase of Cadbury's by mega-food manufacturer Kraft, the story is brought rapidly into the present.

Glucose syrups (commonly known as corn syrups in North America) are derived from starch sources such as maize, wheat and potatoes. Offering alternative functional properties to sugar as well as economic benefits, glucose syrups are extremely versatile sweeteners, and are widely used in food manufacturing and other industries. They are a key ingredient in confectionery products, beer, soft drinks, sports drinks, jams, sauces and ice creams, as well as in pharmaceuticals and industrial fermentations. This book brings together all the relevant information on the manufacture and use of glucose syrups. Drawing on forty years' experience in the international glucose industry, the author provides a valuable reference for all those involved in the processing and buying of these syrups, and for scientists involved in the manufacture of a full range of food (and some non-food) products in which the syrups are ingredients. The emphasis is on practical information - recipes are

included where relevant in the applications chapters, and appendices offer commonly-used calculations and useful data. Food technologists can use the book to make choices about the most suitable glucose syrup to use in a particular application, and also to adapt recipes in order to replace sugar (sucrose) or other ingredients. A glossary of terms reflecting the international terminology of the industry completes the book. 'Calum is the pie king' Jamie Oliver 'If you want to know how to make a pie, Calum is your go-to man!' Tom Kerridge Discover the definitive pie bible from self-confessed pastry deviant, chef and London's King of Pies, Calum Franklin. Calum knows good pies and in his debut cookbook, *The Pie Room*, he presents a treasure trove of recipes for some of his favourite ever pastry dishes. Want to learn how to create the ultimate sausage roll? Ever wished to master the humble chicken and mushroom pie? In this collection of recipes discover the secrets to 80 delicious and achievable pies and sides, both sweet and savoury including hot pork pies, cheesy dauphinoise and caramelised onion pie, hot and sour curried cod pie, the ultimate beef Wellington and rhubarb and custard tarts. Alongside the recipes Calum guides you through the techniques and tools for perfecting your pastry. Within these pages you'll find details including how to properly line pie tins, or how to crimp your pastry and decorate your pies so they look like true show-stoppers. Say hello to your new foodie obsession and get ready to create your very own pie masterpiece. 'I'd happily spend eternity eating chef Calum Franklin's pies.' Grace Dent

One of the largest food commodities exported from the developing countries to the rest of the world, cocoa has gained increasing attention on the global market—raising many questions about its quality, sustainability and traceability. *Cocoa Production and Processing Technology* presents detailed explanations of the technologies that could be employed to assure sustainable production of high-quality and safe cocoa beans for the global confectionary industry. It provides overviews of up-to-date technologies and approaches to modern cocoa production practices, global production and consumption trends as well as principles of cocoa processing and chocolate manufacture. The book covers the origin, history and taxonomy of cocoa, and examines the fairtrade and organic cocoa industries and their influence on smallholder farmers. The chapters provide in-depth coverage of cocoa cultivation, harvesting and post-harvest treatments with a focus on cocoa bean composition, genotypic variations and their influence on quality, post-harvest pre-treatments, fermentation techniques, drying, storage and transportation. The author provides details on cocoa fermentation processes as well as the biochemical and microbiological changes involved and how they influence flavour. He also addresses cocoa trading systems, bean selection and quality criteria, as well as industrial processing of fermented and dried cocoa beans into liquor, cake, butter and powder. The book examines the general principles of chocolate manufacture, detailing the various stages of the processes involved, the factors that influence the quality characteristics and strategies to avoid post-processing quality defects. This volume presents innovative techniques for sustainability and traceability in high-quality cocoa production and explores new product development with potential for cost reduction as well as improved cocoa bean and chocolate product quality.

A compact connoisseur's guide, with recipes, to today's cutting-edge array of chocolates and chocolate makers from former *Chez Panisse* pastry chef David Lebovitz. In this compact volume, David Lebovitz gives a succinct cacao botany lesson, explains the process of chocolate making, runs through chocolate terminology and types, presents information on health benefits, offers an evaluating and buying primer, profiles the world's top chocolate makers and chocolatiers (with a whole chapter dedicated to Paris alone!), and shares dozens of little-known factoids in sidebars throughout the book. *The Great Book of Chocolate* includes more than 50 location and food photographs, and features more than 30 of Lebovitz's favorite chocolate recipes, from Black-Bottom Cupcakes to Homemade Rocky Road Candy, Orange and Rum Chocolate Mousse Cake to Double Chocolate Chip Espresso Cookies. His extensive resource section (with websites for international

ordering) can bring the world's best chocolate to every door. A self-avowed chocoholic, Lebovitz nibbles chocolate every day, and with *The Great Book of Chocolate* in hand, he figures the rest of us will too.

Since the third edition of this standard work in 1999, there has been a significant increase in the amount of chocolate manufactured worldwide. The fourth edition of *Industrial Chocolate Manufacture and Use* provides up-to-date coverage of all major aspects of chocolate manufacture and use, from the growing of cocoa beans to the packaging and marketing of the end product. Retaining the important and well-received key features of the previous edition, the fourth edition also contains completely new chapters covering chocolate crumb, cold forming technologies, intellectual property, and nutrition. Furthermore, taking account of significant changes and trends within the chocolate industry, much new information is incorporated, particularly within such chapters as those covering the chemistry of flavour development, chocolate flow properties, chocolate packaging, and chocolate marketing. This fully revised and expanded new edition is an essential purchase for all those involved in the manufacture and use of chocolate.

Following on from their previous volume on *Chocolate as Medicine*, Philip K. Wilson and W. Jeffrey Hurst edit this companion volume, *Chocolate and Health*, providing a comprehensive overview of the chemistry, nutrition and bioavailability of cacao and chocolate. The book begins with a brief historical introduction to the topic, outlining the current and historical medical uses of chocolate and chocolate derivatives. The remainder of the text is arranged into three sections, taking the reader through various aspects of the nutritional and health aspects of cacao. The first section covers the cultivation, chemistry and genome analysis of cacao. The second section discusses the biochemistry and nutritional components of cacao in relation to health, covering bioavailability and the metabolism and metabolomics of cacao. The final section provides an overview of the potential use of chocolate in health and medical care. Each section is written and prepared by experts within each field, providing a global perspective of the current and ongoing research in this area. This text provides the reader with a complete overview of the field and is of interest to food and biomedical scientists, as well as nutritionists, medicinal chemists and anyone with an interest in chocolate.

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 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

This textbook presents a thorough overview of chemical and process industries. It describes the standard technologies and the state of the

industries and the manufacturing processes of specific chemical and allied products. It includes examples of industries in Ghana, highlighting the real-world applications of these technologies. The book introduces new developments in the processes in chemical industry, focuses on the technology and methodology of the processes and the chemistry underlying them. It offers guidance on operating of processing units. Furthermore, it includes sections on safety and environmental pollution control in industry. With a pedagogical and comprehensive approach, utilizing illustrations and tables, this book provides students in chemical engineering and industrial chemistry with a concise and up-to-date overview of this diverse subject.

"A 22-volume, highly illustrated, A-Z general encyclopedia for all ages, featuring sections on how to use World Book, other research aids, pronunciation key, a student guide to better writing, speaking, and research skills, and comprehensive index"--

This book, written by global experts, provides a comprehensive and topical analysis on the economics of chocolate. While the main approach is economic analysis, there are important contributions from other disciplines, including psychology, history, government, nutrition, and geography. The chapters are organized around several themes, including the history of cocoa and chocolate — from cocoa drinks in the Maya empire to the growing sales of Belgian chocolates in China; how governments have used cocoa and chocolate as a source of tax revenue and have regulated chocolate (and defined it by law) to protect consumers' health from fraud and industries from competition; how the poor cocoa producers in developing countries are linked through trade and multinational companies with rich consumers in industrialized countries; and how the rise of consumption in emerging markets (China, India, and Africa) is causing a major boom in global demand and prices, and a potential shortage of the world's chocolate.

Covers the history, ingredients, and processing techniques used in the manufacture of chocolate.

'An overview of the history of cocoa, the factors affecting its production and consumption as well as how the trade is conducted, various risks mitigated, and by whom. ...The International Cocoa Trade is a work designed to inform all on the subject of cocoa and an essential guide for those involved in its trade.' Dr J. Vingerhoets, Executive Director, ICCO

Cocoa is a valuable commodity, and the cocoa trade involves many different parties from growers and exporters through dealers and factories to those trading futures and options and the banks they deal with. The International Cocoa Trade provides an authoritative and comprehensive review of the cocoa trade at the beginning of the twenty-first century, and the main factors that drive and affect that business. The opening chapter of the third edition examines the history and origins of the international cocoa trade, and its recent developments. The agronomics of cocoa production are discussed in chapter two whilst chapter three deals with the environmental and practical factors affecting cocoa production.

Chapters four, five and six cover issues around the export and trading of physical cocoa, including the actuals market, the physical contracts used and the futures and options markets. In chapter seven, the international consumption and stocks of cocoa are reviewed with chapter eight discussing the issue of quality assessment of cocoa beans for international trade. Finally, chapter nine focuses on the end product, examining the processing of cocoa beans and the manufacture of chocolate. Updated appendices provide copies of some of the most important documents used in the

cocoa trade, including contracts, sale rules and world production statistics. This comprehensively updated third edition of The International Cocoa Trade ensures its continued status as the standard reference for all those involved in the production consumption and international trading of cocoa. Provides an authoritative and comprehensive review of the cocoa trade at the beginning of the twenty-first century, and the main factors that drive and affect that business Examines the history and origins of the international cocoa trade, and its recent developments featuring a discussion of environmental and practical factors affecting cocoa production Explores issues concerning the export and trading of physical cocoa, including the actuals market, the physical contracts used and the futures and options markets Cocoa, Chocolate and Ice Cream are the products which has a good nutritious value and relatively inexpensive food. Cocoa butter is used in chocolate and to cover other confectionery products. Now a day chocolate and ice cream are gaining good popularity among the society all over the world. Chocolate is a key ingredient in many foods such as milk shakes, candy bars, ice creams etc. It is ranked as one of the most favorite flavors in the world. Despite its popularity, most people do not know the unique origins of this popular treat. Chocolate is a product that requires complex procedures to produce. The process involves harvesting coca, refining coca to cocoa beans, and shipping the cocoa beans to the manufacturing factory for cleaning, coating and grinding. These cocoa beans will then be imported or exported to other countries and be transformed into different type of chocolate products. Ice cream is a frozen dessert usually made from dairy products, such as milk and cream, and often combined with fruits or other ingredients and flavors. The meaning of ice cream varies from one country to another like frozen custard, frozen yogurt, sorbet, and gelato and so on. The ice cream industry has traditionally grown at a healthy rate of 12% per annum. India is the second largest milk producing country. Milk products like butter, curd, ghee, etc have become an essential part of our food and are consumed in good quantity every day. In spite of the huge demand that exists for such milk based items conventional methods are employed for producing these items. The growth in cocoa, chocolate, Ice cream and other milk product industry has been primarily due to strengthening of distribution network and cold chain infrastructure. Some of the fundamentals of the book are cocoa bean production, sources of cocoa bean supplies, refining for production of chocolate masses for different uses, shipment of cocoa beans, cocoa processes , cocoa for drinking, instant cocoas, drinking chocolates manufacturing cocoa, cocoa butter & replacement fats , coatings and cocoa , chocolate manufacture, chocolate bars and covered confectionery , chocolate molding, determination of fat in cocoa and chocolate products, determination of cooling curve of cocoa butter and similar fats, the manufacture of dairy products, ice cream manufacture, energy value and nutrients of ice cream etc. The present book contain formulae, processes and other relevant details related to manufacture of cocoa products, chocolates, ice cream and other milk products. An attempt has

been made to bring in to focus the significant aspect of cocoa products, dairy products manufacturing. It is hoped that the subject matter contain and its presentation will be very helpful to new entrepreneurs, professionals, institutions, technocrats and students etc.

Beckett's Industrial Chocolate Manufacture and Use John Wiley & Sons

Chocolate is available to today's consumers in a variety of colours, shapes and textures. But how many of us, as we savour our favourite brand, consider the science that has gone into its manufacture? This book describes the complete chocolate making process, from the growing of the beans to the sale in the shops. The Science of Chocolate first describes the history of this intriguing substance. Subsequent chapters cover the ingredients and processing techniques, enabling the reader to discover not only how confectionery is made but also how basic science plays a vital role with coverage of scientific principles such as latent and specific heat, Maillard reactions and enzyme processes. There is also discussion of the monitoring and controlling of the production process, and the importance, and variety, of the packaging used today. A series of experiments, which can be adapted to suit students of almost any age, is included to demonstrate the physical, chemical or mathematical principles involved. Ideal for those studying food science or about to join the confectionery industry, this mouth-watering title will also be of interest to anyone with a desire to know more about the production of the world's favourite confectionery.

Confectionery and chocolate manufacture has been dominated by large-scale industrial processing for several decades. It is often the case though, that a trial and error approach is applied to the development of new products and processes, rather than verified scientific principles. Confectionery and Chocolate Engineering: Principles and Applications, Second edition, adds to information presented in the first edition on essential topics such as food safety, quality assurance, sweets for special nutritional purposes, artizan chocolate, and confectioneries. In addition, information is provided on the fading memory of viscoelastic fluids, which are briefly discussed in terms of fractional calculus, and gelation as a second order phase transition. Chemical operations such as inversion, caramelization, and the Maillard reaction, as well as the complex operations including conching, drying, frying, baking, and roasting used in confectionery manufacture are also described. This book provides food engineers, scientists, technologists and students in research, industry, and food and chemical engineering-related courses with a scientific, theoretical description and analysis of confectionery manufacturing, opening up new possibilities for process and product improvement, relating to increased efficiency of operations, the use of new materials, and new applications for traditional raw materials.

In this book, updated information on all major aspects of the harvesting and chocolate manufacture of Venezuelan cocoa are compiled and discussed. The major quality factors in chocolate processing from the post harvest to its manufacture

are studied, covering topics such as cocoa cultivation and processing, with special attention paid to bean composition, and its genotypic variations, fermentation and drying processes, and the chemical and biochemical basis of these operations; and the procedures of conching, tempering, molding and enrobing. The microbiological and physicochemical factors that affect the safety and quality of chocolate are also compiled. The composition and importance of the triglycerides that make up cocoa butter and the physico-chemical factors associated with the crystallization and stability of these fats in the manufacture of chocolate are evaluated. A review and discussion of the conventional perception as regards the types and composition of chocolate, comparing it to recent reports in literature which scientifically demonstrate that chocolate can be considered as a functional food, are available in this book. An assemblage of published information of the different aspects that make up the sensory quality of chocolate, basic techniques of photography and styling, and its applications in the chocolate as well as the parameters inherent in the composition, and physical properties involved in the final appearance of the chocolate is discussed. The organization, the day to day running, production and quality control of the products made by the Venezuelan socialist enterprise "Cacao Oderí" and the activities of the chocolate School de La Alba are shown. Finally, the proximate composition and some nutritional and functional properties of cocoa by-products (pod husks and bean coats) were analyzed in order to propose them for feed and food uses.

Cocoa and Chocolate, 1765-1914 focuses on the period from the Seven Years War, to the First World War, when a surge of economic liberalism and globalisation should have helped cocoa producers to overcome rural poverty, just as wool transformed the economy of Australia, and tea that of Japan. The addition of new forms of chocolate to Western diets in the late nineteenth century led to a great cocoa boom, and yet economic development remained elusive, despite cocoa producers having certain advantages in the commodity lottery faced by exporters of raw materials. The commodity chain, from sowing a cocoa bean to enjoying a cup of hot chocolate, is examined in Cocoa and Chocolate, 1765-1914 under the broad rubrics of chocolate consumption, the taxation of cocoa beans, the manufacture of chocolate, private marketing channels, land distribution, ecological impact on tropical forests, and the coercion of labour. Cocoa and Chocolate, 1765-1914 concludes that cocoa failed to act as a dynamo for development.

Major tree crops contribute substantially to the economy of many developing countries on the Asian, African and Latin American continents. For example, coffee is the main revenue earner for Kenya. This book provides a comprehensive review of the agronomy, botany, taxonomy, genetics, chemistry, economics, and future global prospects of a range of crops that have great food, industrial and economic value such as cocoa, coffee, cashew, oil palm and natural rubber. Discusses the major tree crops of great economic value to the developing world The author is an eminent scientist who

has won numerous awards for his work in this area

This second edition provides information on recent advances in the science and technology of chocolate manufacture and the entire international cocoa industry. It provides detailed review on a wide range of topics including cocoa production, cocoa and chocolate manufacturing operations, sensory perception of chocolate quality, flavour release and perception, sugar replacement and alternative sweetening solutions in chocolate production, industrial manufacture of sugar-free chocolates as well as the nutrition and health benefits of cocoa and chocolate consumption. The topics cover modern cocoa cultivation and production practices with special attention on cocoa bean composition, genotypic variations in the bean, post-harvest pre-treatments, fermentation and drying processes, and the biochemical basis of these operations. The scientific principles behind industrial chocolate manufacture are outlined with detailed explanations of the various stages of chocolate manufacturing including mixing, refining, conching and tempering. Other topics covered include the chemistry of flavour formation and development during cocoa processing and chocolate manufacture; volatile flavour compounds and their characteristics and identification; sensory descriptions and character; and flavour release and perception in chocolate. The nutritional and health benefits of cocoa and chocolate consumption as well as the application of HACCP and other food safety management systems such as ISO 22,000 in the chocolate processing industry are also addressed. Additionally, detailed research on the influence of different raw materials and processing operations on the flavour and other quality characteristics of chocolates have been provided with scope for process optimization and improvement. The book is intended to be a desk reference for all those engaged in the business of making and using chocolate worldwide; confectionery and chocolate scientists in industry and academia; students and practising food scientists and technologists; nutritionists and other health professionals; and libraries of institutions where agriculture, food science and nutrition is studied and researched.

The authors had five objectives in preparing this book: (i) to bring together relevant information on many raw materials used in the manufacture of sweets and chocolate; (ii) to describe the principles involved and to relate them to production with maximum economy but maintaining high quality; (iii) to describe both traditional and modern production processes, in particular those continuous methods which are finding increasing application; (iv) to give basic recipes and methods, set out in a form for easy reference, for producing a large variety of sweets, and capable of easy modification to suit the raw materials and plant available; (v) to explain the elementary calculations most likely to be required. The various check lists and charts, showing the more likely faults and how to eliminate them, reflect the fact that art still plays no small part in this industry. To help users all over the world, whatever units they employ, most formulations are given in parts by weight, but tables of conversion factors are provided at the end of the book. There also will be found a collection of other general reference data in tabular form; while the Glossary explains a number of technical terms, many of them peculiar to the industry.

Revised edition of: Industrial chocolate manufacture and use / edited by Stephen T. Beckett. 2009.

Almost five million tonnes of cocoa produced annually drives the US\$100 billion global chocolate industry. To sustain the industry,

cacao planting materials (seeds and clones) have been successfully moved from the Amazon forests in America to the humid tropical forests of Africa, Asia, and Australia. In more than 150 years of commercial cacao cultivation, smallholder farmers that supply the bulk of cocoa beans still face several production constraints that impede their efficiency. Scientific technologies have therefore been deployed to remove these constraints by ensuring a continuous supply of good quality cocoa beans to meet growing global demand. This book provides insight into these scientific advances to address these current and emerging problems and to assure the sustainability of the global cocoa industry.

Chocolate in Health and Nutrition represents the first comprehensive compilation of the newest data on the actions of the flavonoids and microorganisms associated with the beneficial effects of chocolate. This unique text provides practical, data-driven resources based upon the totality of the evidence to help the reader understand the basics, treatments and preventive strategies that are involved in the understanding of the role chocolate may play in healthy individuals as well as those with cardiovascular disease, diabetes or neurocognitive declines. Of equal importance, critical issues that involve patient concerns, such as dental caries and food preferences in children, potential effects on weight gain, addiction and withdrawal are included in well-referenced, informative chapters. The latest research on the role of chocolate in normal health areas including mood, pain and weight management, cardiovascular disease and related conditions are presented. Chocolate in Health and Nutrition provides health professionals in many areas of research and practice with the most up-to-date, well referenced and comprehensive volume on the current state of the science and medical uses of chocolate.

Author Megan Giller invites fellow chocoholics on a fascinating journey through America's craft chocolate revolution. Learn what to look for in a craft chocolate bar and how to successfully pair chocolate with coffee, beer, spirits, cheese, or bread. This comprehensive celebration of chocolate busts some popular myths (like "white chocolate isn't chocolate") and introduces you to more than a dozen of the hottest artisanal chocolate makers in the US today. You'll get a taste for the chocolate-making process and understand how chocolate's flavor depends on where the cacao was grown — then discover how to turn your artisanal bars into unexpected treats with 22 recipes from master chefs.

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