

## Sensory Evaluation Practices 4th Edition

A Handbook for Sensory and Consumer Driven New Product Development explores traditional and well established sensory methods (difference, descriptive and affective) as well as taking a novel approach to product development and the use of new methods and recent innovations. This book investigates the use of these established and new sensory methods, particularly hedonic methods coupled with descriptive methods (traditional and rapid), through multivariate data analytical interfaces in the process of optimizing food and beverage products effectively in a strategically defined manner. The first part of the book covers the sensory methods which are used by sensory scientists and product developers, including established and new and innovative methods. The second section investigates the product development process and how the application of sensory analysis, instrumental methods and multivariate data analysis can improve new product development, including packaging optimization and shelf life. The final section defines the important sensory criteria and modalities of different food and beverage products including Dairy, Meat, Confectionary, Bakery, and Beverage (alcoholic and non-alcoholic), and presents case studies indicating how the methods described in the first two sections have been successfully and innovatively applied to these different foods and beverages. The book is written to be of value to new product development researchers working in large corporations, SMEs (micro, small or medium-sized enterprises) as well as being accessible to the novice starting up their own business. The innovative technologies and methods described are less expensive than some more traditional practices and aim to be quick and effective in assisting products to market. Sensory testing is critical for new product development/optimization, ingredient substitution and devising appropriate packaging and shelf life as well as comparing foods or beverages to competitor's products. Presents novel and effective sensory-based methods for new product development—two related fields that are often covered separately Provides accessible, useful guidance to the new product developer working in a large multi-national food company as well as novices starting up a new business Offers case studies that provide examples of how these methods have been applied to real product development by practitioners in a wide range of organizations Investigates how the application of sensory analysis can improve new product development including packaging optimization

This book entitled "Cocoa, Chocolate, and Human Health" presents the most recent findings about cocoa and health in 14 peer-reviewed chapters including nine original contributions and five reviews from cocoa experts around the world. Bioavailability and metabolism of the main cocoa polyphenols, i.e., the flavanols like epicatechin, are presented including metabolites like valerolactones that are formed by the gut microbiome. Many studies, including intervention studies or epidemiological observations, do not focus on single compounds, but on cocoa as a whole. This proves the effectiveness of cocoa as a functional food. A positive influence of cocoa on hearing problems, exercise performance, and metabolic syndrome is discussed with mixed results; the results about exercise performance are contradictory. Evidence shows that cocoa flavanols may modulate some risk factors related to metabolic syndrome such as hypertension and disorders in glucose and lipid metabolism. However, several cardiometabolic parameters in type 2 diabetics were not affected by a flavanol-rich cocoa powder as simultaneous treatment with pharmaceuticals might have negated the effect of cocoa. The putative health-promoting components of cocoa are altered during processing like fermentation, drying, and roasting of cocoa beans. Chocolate, the most popular cocoa product, shows remarkable losses in polyphenols and vitamin E during 18 months of storage.

Cosmetics are the most widely applied products to the skin and include creams, lotions, gels and sprays. Their formulation, design and manufacturing ranges from large cosmetic houses to small private companies. This book covers the current science in the formulations of cosmetics applied to the skin. It includes basic formulation, skin science, advanced formulation, and cosmetic product development, including both descriptive and mechanistic content with an emphasis on practical aspects. Key Features: Covers cosmetic products/formulation from theory to practice Includes case studies to illustrate real-life formulation development and problem solving Offers a practical, user-friendly approach, relying on the work of recognized experts in the field Provides insights into the future directions in cosmetic product development Presents basic formulation, skin science, advanced formulation and cosmetic product development

The pillars of good consumer and sensory studies -- Sensory profile of a product : mapping internal sensory properties -- The foundations of consumer evaluation -- Study plans and strategy : sustainable short, mid and long-term vision -- Real-life anticipation with market factors : concept, price, brand, market channel -- Internal studies versus sub-contracting

The preservation processes for foods have evolved over several centuries, but recent attention to non-thermal technologies suggests that a new dimension of change has been initiated. The new dimension to be emphasized is the emerging technologies for preservation of foods and the need for sound base of information to be developed as inputs for systematic process design. The focus of the work is on process design, and emphasizes the need for quantitative information as inputs to process design. The concepts presented build on the successful history of thermal processing of foods and use many examples from these types of preservation processes. Preservation of foods by refrigeration, freezing, concentration and dehydration are not addressed directly, but many of the concepts to be presented would apply. Significant attention is given to the fate of food quality attributes during the preservation process and the concept of optimizing process parameters to maximize the retention of food quality. Focuses on Kinetic Models for Food Components Reviews Transport Models in Food Systems Assesses Process Design Models

Sensory Evaluation Techniques, Fourth Edition CRC Press

This work provides comprehensive coverage of the preparation, processing, marketing, safety and nutritional aspects of traditional foods across the globe. Individual chapters focus on the traditional foods of different cultures, with further chapters discussing the consumer acceptability of traditional foods as well as the laws and regulations and the sensorial factors driving the success of these foods. In addition, the integration of traditional food into tourism development plans is discussed at length. As the first publication to focus on a wide scale variety of traditional foods, including their histories and unique preparatory aspects, this is an important book for any researcher looking for a single reference work covering all of the important processing information for each major traditional food category. From traditional Arab foods to traditional Indian, European, African, Australian and Native American foods, Traditional Foods: History, Preparation, Processing and Safety covers the full spectrum of cultural foods, dedicating extensive information to each traditional food type. A full overview of current trends in traditional foods is included, as is a comprehensive history of each type of traditional food. Specific regulations are discussed, as are marketing factors and issues with consumer acceptability. With the recent trends in consumer interest for traditional foods which can not only bring great sensory satisfaction but also fulfill dimensions of culture and tradition, this is a well-timed and singular work that fulfills a great current need for researchers and promises to be an important source for years to come.

From OIV-award-winning author, Ronald S. Jackson, Wine Tasting: A Professional Handbook, Third Edition, is an essential guide for any professional or serious connoisseur seeking to understand both the theory and practice of wine tasting. From techniques for assessing wine properties and quality, including physiological, psychological, and physicochemical sensory evaluation, to the latest information on the types of wine, the author guides the reader to a clear and applicable understanding of the wine tasting process. With its inclusion of illustrative data and testing technique descriptions, the book is ideal for both those who train tasters, those involved in designing wine tastings, and the connoisseur seeking to maximize their perception and appreciation of wine. Contains revised and updated coverage, notably on the physiology and neurology of taste and odor perception Includes expanded coverage of the statistical aspect of wine tasting (specific examples to show the process), qualitative wine tasting, wine language, the origins of wine quality, and food and wine combination Provides a flow chart of wine tasting steps and production procedures Presents practical details on wine storage and the problems that can occur both

during and following bottle opening

Sensory Evaluation of Sound provides a detailed review of the latest sensory evaluation techniques, specifically applied to the evaluation of sound and audio. This three-part book commences with an introduction to the fundamental role of sound and hearing, which is followed by an overview of sensory evaluation methods and associated univariate and multivariate statistical analysis techniques. The final part of the book provides several chapters with concrete real-world applications of sensory evaluation ranging from telecommunications, hearing aids design and binaural sound, via the latest research in concert hall acoustics through to audio-visual interaction. Aimed at the engineer, researcher, university student or manager the book gives insight into the advanced methods for the sensory evaluation with many application examples. Introduces the fundamental of hearing and the value of sound Provides a firm theoretical basis for advanced techniques in sensory evaluation of sound that are then illustrated with concrete examples from university research through to industrial product development Includes chapters on sensory evaluation practices and methods as well as univariate and multivariate statistical analysis Six application chapters covering a wide range of concrete sensory evaluation study examples including insight into audio-visual assessment Includes data analysis with several associated downloadable datasets Provides extensive references to the existing research literature, text books and standards Dairy foods account for a large portion of the Western diet, but due to the potential diversity of their sources, this food group often poses a challenge for food scientists and their research efforts. Bringing together the foremost minds in dairy research, Handbook of Dairy Foods Analysis, Second Edition, compiles the top dairy analysis techniques and methodologies from around the world into one well-organized volume. Exceptionally comprehensive in both its detailing of methods and the range of dairy products covered, this handbook includes tools for analyzing chemical and biochemical compounds and also bioactive peptides, prebiotics, and probiotics. It describes noninvasive chemical and physical sensors and starter cultures used in quality control. This second edition includes four brand-new chapters covering the analytical techniques and methodologies for determining bioactive peptides, preservatives, activity of endogenous enzymes, and sensory perception of dairy foods, and all other chapters have been adapted to recent research. All other chapters have been thoroughly updated. Key Features: Explains analytical tools available for the analysis of the chemistry and biochemistry of dairy foods Covers a variety of dairy foods including milk, cheese, butter, yogurt, and ice cream Analysis of nutritional quality includes prebiotics, probiotics, essential amino acids, bioactive peptides, and healthy vegetable-origin compounds Includes a series of chapters on analyzing sensory qualities, including color, texture, and flavor. Covering the gamut of dairy analysis techniques, the book discusses current methods for the analysis of chemical and nutritional compounds, and the detection of microorganisms, allergens, contaminants, and/or other adulterations, including those of environmental origin or introduced during processing. Other methodologies used to evaluate color, texture, and flavor are also discussed. Written by an international panel of distinguished contributors under the editorial guidance of renowned authorities, Fidel Toldrá and Leo M.L. Nollet, this handbook is one of the few references that is completely devoted to dairy food analysis – an extremely valuable reference for those in the dairy research, processing, and manufacturing industries.

Over the last decade or so, the field of science and technology studies (STS) has become an intellectually dynamic interdisciplinary arena. Concepts, methods, and theoretical perspectives are being drawn both from long-established and relatively young disciplines. From its origins in philosophical and political debates about the creation and use of scientific knowledge, STS has become a wide and deep space for the consideration of the place of science and technology in the world, past and present. The Routledge Handbook of Science, Technology and Society seeks to capture the dynamism and breadth of the field by presenting work that pushes the reader to think about science and technology and their intersections with social life in new ways. The interdisciplinary contributions by international experts in this handbook are organized around six topic areas: embodiment consuming technoscience digitization environments science as work rules and standards This volume highlights a range of theoretical and empirical approaches to some of the persistent – and new – questions in the field. It will be useful for students and scholars throughout the social sciences and humanities, including in science and technology studies, history, geography, critical race studies, sociology, communications, women's and gender studies, anthropology, and political science.

Nutrition Research: Concepts & Applications is written for nutrition students in undergraduate and graduate programs who are beginning to develop the skills necessary to become knowledgeable research consumers, conduct and document research projects, and understand how to use research findings in practice. The first text of its kind to clearly explain each section of a research paper to students who are new at the process, this title outlines how to read and analyze research by learning concepts, such as sampling design or relative risk, and then seeing these abstract ideas brought to life in actual research articles. Students also apply these concepts in Application Questions and Critical Thinking Exercises in which they write abstracts, answer questions about evidenced-based study data, or use a checklist to critique a study. Students also learn the nuts and bolts of searching databases for appropriate articles, using systematic reviews such as the Academy of Nutrition and Dietetics

The key requirements for chilled food products are good quality and microbiological safety at the point of consumption. The first edition of Chilled foods quickly established itself as the standard work on these issues. This major new edition strengthens that reputation, with extensively revised and expanded coverage (including more than ten new chapters) and significant participation from those in the chilled food industry to increase the publication's relevance to practitioners. The introduction discusses key trends and influences in the chilled foods market. Part one explores the critical importance of raw material selection and packaging materials in final product quality, with expanded coverage of particular ingredients such as fish, cheese and poultry and a new contribution on chilled food packaging materials and technologies. Part two focuses on technologies and processes in the supply chain, with entirely new chapters on refrigeration, storage and transport and non-microbial hazards such as allergens, among others. Alongside are updated chapters on the important topics of hygienic design, cleaning and disinfection and temperature monitoring and measurement. Part three covers microbiological hazards, with new chapters on predictive microbiology and conventional and rapid analytical microbiology. The final part contains three new chapters devoted to essential issues in safety and quality management, such as shelf-life, quality and consumer acceptability. A wholly updated chapter on legislation and criteria completes the volume. Extensively revised and expanded, the third edition of Chilled foods is an essential reference for professionals involved in the manufacture of chilled food products. Reviews key trends and influences in the chilled food market Explores the importance of raw material selection and packaging materials in final product quality Discusses technologies and processes in the supply chain, focusing on refrigeration, storage and transport

From listing the steps involved in a sensory evaluation project to presenting advanced statistical methods, Sensory Evaluation Techniques, Fourth Edition covers all phases of sensory evaluation. Like its bestselling predecessors, this edition continues to detail all sensory tests currently in use, to promote the effective employment of these tests, and to describe major sensory evaluation practices. The expert authors have updated and added many areas in this informative guide. New to this edition are expanded chapters on qualitative and quantitative consumer research and the Spectrum method of descriptive sensory analysis that now contains full descriptive lexicons for numerous products, such as cheese, mayonnaise, spaghetti sauce, white bread, cookies, and toothpaste. Also new in this chapter is a set of revised flavor intensity scales for crispness, juiciness, and some common aromatics. The book now includes an overview of Thurstonian scaling that examines the decision processes employed by assessors during their evaluations of products. Another addition is a detailed discussion of data-relationship techniques, which link data from diverse sources that are collected on the same set of examples. With numerous examples and sample tests, Sensory Evaluation Techniques, Fourth Edition remains an essential resource that illustrates the development of sensory perception testing.

Sensory Evaluation Practices examines the principles and practices of sensory evaluation. It describes methods and procedures for the analysis of results from sensory tests; explains the reasons for selecting a particular procedure or test method; and discusses the organization and operation of a testing program, the design of a test facility, and the interpretation of results. Comprised of three parts encompassing nine chapters, this volume begins with an overview of sensory evaluation: what it does; how, where, and for whom; and its origin in physiology and psychology. It then discusses measurement, psychological errors in testing, statistics, test strategy, and experimental design. The reader is also introduced to the discrimination, descriptive, and affective methods of testing, along with the criteria used to select a specific method, procedures for data analysis, and the communication of actionable results. The book concludes by looking at problems where sensory evaluation is applicable, including correlation of instrumental and sensory data, measurement of perceived efficacy, storage testing, and product optimization. This book is a valuable resource for sensory professionals, product development and production specialists, research directors, technical managers, and professionals involved in marketing, marketing research, and advertising.

Materials play a central role in society. Beyond the physical and chemical properties of materials, their cultural properties have often been overlooked in anthropological studies: finished products have been perceived as 'social' yet the materials which comprise them are considered 'raw' or natural'. The Social Life of Materials proposes a new perspective in this interdisciplinary field. Diverting attention from the consumption of objects, the book looks towards the properties of materials and how these exist through many transformations in a variety of cultural contexts. Human societies have always worked with materials. However, the customs and traditions surrounding this differ according to the place, the time and the material itself. Whether or not the material is man-made, materials are defined by social intervention. Today, these constitute one of the most exciting areas of global scientific research and innovation, harboring the potential to act as key vehicles of change in the world. But this 'materials revolution' has complex social implications. Smart materials are designed to anticipate our actions and needs, yet we are increasingly unable to apprehend the composite materials which comprise new products. Bringing together ethnographic studies of cultures from around the world, this collection explores the significance of materials by moving beyond questions of what may be created from them. Instead, the text argues that the materials themselves represent a shifting ground around which relationships, identities and powers are constantly formed and dissolved in the act of making and remaking.

Producing products of reliable quality is vitally important to the food and beverage industry. In particular, companies often fail to ensure that the sensory quality of their products remains consistent, leading to the sale of goods which fail to meet the desired specifications or are rejected by the consumer. This book is a practical guide for all those tasked with using sensory analysis for quality control (QC) of food and beverages. Chapters in part one cover the key aspects to consider when designing a sensory QC program. The second part of the book focuses on methods for sensory QC and statistical data analysis. Establishing product sensory specifications and combining instrumental and sensory methods are also covered. The final part of the book reviews the use of sensory QC programs in the food and beverage industry. Chapters on sensory QC for taint prevention and the application of sensory techniques for shelf-life assessment are followed by contributions reviewing sensory QC programs for different products, including ready meals, wine and fish. A chapter on sensory QC of products such as textiles, cosmetics and cars completes the volume. Sensory analysis for food and beverage quality control is an essential reference for anyone setting up or operating a sensory QC program, or researching sensory QC. Highlights key aspects to consider when designing a quality control program including sensory targets and proficiency testing Examines methods for sensory quality control and statistical data analysis Reviews the use of sensory quality control programs in the food and beverage industry featuring ready meals, wine and fish

Salt, Fat and Sugar Reduction: Sensory Approaches for Nutritional Reformulation of Foods and Beverages explores salt, sugar, fat and the current scientific findings that link them to diseases. The sensory techniques that can be used for developing consumer appealing nutritional optimized products are also discussed, as are other aspects of shelf life and physicochemical analysis, consumer awareness of the negative nutritional impact of these ingredients, and taxes and other factors that are drivers for nutritional optimization. This book is ideal for undergraduate and postgraduate students and academics, food scientists, food and nutrition researchers, and those in the food and beverage industries. Provides a clear outline of current legislation on global ingredient taxes Demonstrates effective protocols, sensory, multivariate and physico-chemical for salt, fat and sugar reduction Outlines reduction protocols, with and without the use of replacer ingredients for salt, fat and sugar reduction Illustrates the full process chain, consumer to packaging, and the effects of reformulation by reduction of ingredients

As the population of the world continues to surge upwards, it is apparent that the global economy is unable to meet the nutritional needs of such a large populace. In an effort to circumvent a deepening food crisis, it is pertinent to develop new sustainability strategies and practices. Food Science, Production, and Engineering in Contemporary Economies features timely and relevant information on food system sustainability and production on a global scale. Highlighting best practices, theoretical concepts, and emergent research in the field, this book is a critical resource for professionals, researchers, practitioners, and academics interested in food science, food economics, and sustainability practices.

Evidence-based practice depends on well-designed, well-executed research. Now in its second edition, this highly respected guide to dietetics research has been written and edited by the foremost experts in the field. As a guide, this book is invaluable to new and experienced researchers alike. As a reference, Research: Successful Approaches provides practical observations that will make research accessible to all readers.

Understanding what the consumer wants and will accept are two of the most significant hurdles faced by anyone in new product development. Whether the concern is the proper mouth-feel of a potato chip, the sense of freshness" evoked by a chewing gum, or the weight and texture of a cosmetic, if the consumer doesn't find the product acceptable, it won't sell. Sensory evaluation testing is the process that establishes the consumer acceptability of a product. It can help identify issues before general production is begun and potentially bring to light issues that hadn't previously been considered a factor in the success of the project.

Emphasizes the importance of a

Context: The Effects of Environment on Product Design and Evaluation addresses the environment, or context, in which we consume products and the impact of context on choice and acceptability. The book explores what context is, how it influences design by specialists, and acceptance by consumers. Chapters discuss the basics of context, food and drink in context, testing a range of other products, and other contextual variables. Historically, research on context has been done in the laboratory and various natural locations, but rapid growth in other methods to study context, including evoked contexts, immersive contexts, virtual reality contexts, and more have widened research possibilities. Appealing to the professional, academic and commercial markets, this book will be of interest to those who conduct research in product development and product testing, to those who study what controls product usage, including eating from the health perspective, and to those who make decisions about product

and space development. Explores information on how context works and how to assess its influence on product decisions  
Discusses the basics of context, food and drink in context, and testing other products in context, including personal care products and home and workspace design Identifies variables that contribute to the contextual experience

A comprehensive review of the techniques and applications of descriptive analysis Sensory evaluation is a scientific discipline used to evoke, measure, analyse and interpret responses to products perceived through the senses of sight, smell, touch, taste and hearing. It is used to reveal insights into the ways in which sensory properties drive consumer acceptance and behaviour, and to design products that best deliver what the consumer wants. Descriptive analysis is one of the most sophisticated, flexible and widely used tools in the field of sensory analysis. It enables objective description of the nature and magnitude of sensory characteristics for use in consumer-driven product design, manufacture and communication. Descriptive Analysis in Sensory Evaluation provides a comprehensive overview of a wide range of traditional and recently-developed descriptive techniques, including history, theory, practical considerations, statistical analysis, applications, case studies and future directions. This important reference, written by academic and industrial sensory scientist, traces the evolution of descriptive analysis, and addresses general considerations, including panel set-up, training, monitoring and performance; psychological factors relevant to assessment; and statistical analysis. Descriptive Analysis in Sensory Evaluation is a valuable resource for sensory professionals working in academia and industry, including sensory scientists, practitioners, trainers and students, and industry-based researchers in quality assurance, research and development, and marketing.

The field of sensory science has grown exponentially since the publication of the previous version of this work. Fifteen years ago the journal Food Quality and Preference was fairly new. Now it holds an eminent position as a venue for research on sensory test methods (among many other topics). Hundreds of articles relevant to sensory testing have appeared in that and in other journals such as the Journal of Sensory Studies. Knowledge of the intricate cellular processes in chemoreception, as well as their genetic basis, has undergone nothing less than a revolution, culminating in the award of the Nobel Prize to Buck and Axel in 2004 for their discovery of the olfactory receptor gene super family. Advances in statistical methodology have accelerated as well. Sensometrics meetings are now vigorous and well-attended annual events. Ideas like Thurstonian modeling were not widely embraced 15 years ago, but now seem to be part of the everyday thought process of many sensory scientists. And yet, some things stay the same. Sensory testing will always involve human participants. Humans are tough measuring instruments to work with. They come with varying degrees of acumen, training, experiences, differing genetic equipment, sensory capabilities, and of course, different preferences. Human foibles and their associated error variance will continue to place a limitation on sensory tests and actionable results. Reducing, controlling, partitioning, and explaining error variance are all at the heart of good test methods and practices. This is the first practical book dedicated to the fundamental and application aspects of two major unit operations in cocoa and coffee processing, namely drying and roasting. The drying and roasting of cocoa and coffee beans play critical roles in governing the formation of flavor precursors in the early stages and also the development of flavor and aroma in the later stages during processing. Hence, qualities of the finished chocolates and coffee powder products are affected greatly by the dried and roasted beans produced. Drying and Roasting of Cocoa and Coffee covers key topics areas ranging from post-harvest processing, equipment selection, physical and chemical changes during processing, flavor development, grading and dried product quality. The book consists of two parts with topics dedicated to the drying/roasting aspects of cocoa and coffee, respectively. Features Provides a comprehensive review on flavor development during cocoa/coffee processing Discusses the impact of processing parameters on cocoa/coffee quality Presents the new trends in drying/roasting techniques and novel technology Examines the concept of coffee quality in light of both paradigms: the traditional coffee and the specialty coffee grading systems No prior knowledge of cocoa and coffee processing is required to benefit from this book, which is written for a variety of readers. It is suitable for undergraduate and postgraduate students, researchers and industrial practitioners/consultants from various domains in the food and beverage industries.

Discrimination Testing in Sensory Science: A Practical Handbook is a one-stop-shop for practical advice and guidance on the performance and analysis of discrimination testing in sensory science. The book covers all aspects of difference testing: the history and origin of different methods, the practicalities of setting up a difference test, replications, the statistics behind each test, dealing with the analysis, action standards, and the statistical analysis of results with R. The book is written by sensory science experts from both academia and industry, and edited by an independent sensory scientist with over twenty years of experience in planning, running and analyzing discrimination tests. This is an essential text for academics in sensory and consumer science and any sensory scientist working in research and development in food, home, and personal care products, new product development, or quality control. Contains practical guidance on the performance and analysis of discrimination testing in sensory and consumer science for both food and non-food products Includes the latest developments in difference testing, including both new methods and state-of-the-art approaches Features extensive coverage of analysis with a variety of software systems Provides essential insight for academics in sensory and consumer science and any sensory scientist working in research and development in food, home, and personal care products, new product development, or quality control

The field of sensory evaluation has matured in the last half century to become a recognized discipline in the food and consumer sciences and an important part of the foods and consumer products industries. Sensory professionals enjoy widespread recognition for the important services they provide in new product development, basic research, ingredient and process modification, cost reduction, quality maintenance, and product optimization. These services enhance the informational support for management decisions, lowering the risk that accompanies the decision-making process. From the consumers' perspective, a sensory testing program in a food or consumer products company helps ensure that products reach the market with not only good concepts but also with desirable sensory attributes that meet their expectations. Sensory professionals have advanced well beyond the stage when they were simply called on to execute "taste" tests and to provide statistical summaries of results. They are now frequently asked to participate in the decision process itself, to draw reasoned conclusions based on data, and to make recommendations. They are also expected to be well versed in an increasingly sophisticated battery of test methods and statistical procedures, including multivariate analyses. As always, sensory professionals also need to understand people, for people are the measuring instruments that provide the basic sensory data. People are notoriously variable and difficult to calibrate, presenting the sensory specialist with many additional measurement problems that are not present in instrumental methods.

Written as an introductory food science textbook that excites students and fosters learning, the first edition of Introducing Food

Science broke new ground. With an easy-to-read format and innovative sections such as Looking Back, Remember This!, and Looking Ahead, it quickly became popular with students and professors alike. This newly revised second edition keeps the features that made the first edition so well liked, while adding updated information as well as new tables, figures, exercises, and problems. See What's New in the Second Edition: New chapter Sustainability and Distribution Approximately 60 new tables and figures New section at the end of each chapter with problems / exercises to test comprehension Now includes a glossary The book consists of four sections with each one building on the previous section to provide a logical structure and cohesiveness. It contains a series of problems at the end of each chapter to help students test their ability to comprehend the material and to provide instructors a reservoir for assignments, class discussions, and test questions. At least one problem at the end of each chapter involves a calculation so that students can strengthen their quantitative skills. The text introduces the basics of food science and then building on this foundation, explores its sub-disciplines. The well-rounded presentation conveys both commercial and scientific perspectives, providing a true flavor of food science and preparing students for future studies in this field.

Sensory Evaluation Practices, Fifth Edition, presents the latest developments and methods of sensory evaluation, including those on the front end of innovation, consumer acceptance/preference, multivariate statistical analysis, discrimination testing, descriptive analysis, sensory claims substantiation for advertising, and information management. Additionally, related social psychological methods, such as laddering, design thinking, emotional profiling, and applications of qualitative and consumer co-creation and immersive techniques are explored. This book will be an ideal reference for sensory professionals, technical managers, product specialists and research directors in the food, beverage, cosmetics, and other consumer products industries of all sizes.

Emphasizes the importance of scientific sensory methodology used to measure and understand consumer perception Illustrates the importance of planning, managing and communicating product sensory information in a way that is actionable to developers, marketers and legal counsel Presents how sensory science is becoming more influential at the front end of innovation Discusses measurement, the design of experiments, and how to understand key sensory drivers that most influence consumers Explores the global nature of products and how companies can benefit by having fundamental training programs in sensory and consumer science Contains demonstrated methods for test selection, application and measurement, and testing with the right consumer, including more typical usage environments Includes worked examples for interpreting and displaying results Features a new chapter on how to get your research published

For the first major update of this topic in 21 years, editors Kulp, Loewe, Lorenz, and Gelroth have gathered an elite group of internationally recognized experts. This new edition examines the current market trends and applications for coated food products. It updates our knowledge of ingredient utilization in battered and breaded products using corn, wheat, rice, fats and oils, and flavorings and seasonings. It applies the functionality of these ingredients across the rheology of coating systems and into the selection of specific processing equipment Each chapter explores a different facet of developing batter-based coatings and breadings for a variety of new products, and explains how new technology has turned this profitable food category into a science. New authors have contributed chapters on heat and mass transfer in foods during deep-fat frying, nutritional aspects of coated foods, and food allergens. Batters and Breadings in Food Processing, Second Edition presents essential technical and scientific information in a peer-reviewed resource. It will be a valuable reference for food technologists in Research and Development, Quality Assurance, Rheology, and Baking. It will make an excellent text for any course with a batters and breadings processing component.

When the first edition of Poultry Meat Processing was published, it provided a complete presentation of the theoretical and practical aspects of poultry meat processing, exploring the complex mix of biology, chemistry, engineering, marketing, and economics involved. Upholding its reputation as the most comprehensive text available, Poultry Meat Pro

The increasing demand for healthy foods has resulted in the food industry developing functional foods with health-promoting and/or disease preventing properties. However, many of these products bring new challenges. While drugs are taken for their efficacy, functional foods need to have tastes that are acceptable to consumers. Bitterness associated with the functional foods is one of the major challenges encountered by food industry today and will remain so in years to come. This important book offers a thorough understanding of bitterness, the food ingredients that cause it and its accurate measurement. The authors provide a thorough review of bitterness that includes an understanding of the genetics of bitterness perception and the molecular basis for individual differences in bitterness perception. This is followed by a detailed review of the chemical structure of bitter compounds in foods where bitterness may be considered to be a positive or negative attribute. To better understand bitterness in foods, separation and analytical techniques used to identify and characterize bitter compounds are also covered. Food processing can itself generate compounds that are bitter, such as the Maillard reaction and lipid oxidation related products. Since bitterness is considered a negative attribute in many foods, the methods being used to remove and/mask it are also thoroughly discussed. Global Cheesemaking Technology: Cheese Quality and Characteristics reviews cheesemaking practices, and describes cheeses and the processes from which they are manufactured. In addition, the book examines new areas to stimulate further research in addition to the already established knowledge on the scientific principles on cheesemaking. Part I provides an account on the history of cheese, factors influencing the physicochemical properties, flavour development and sensory characteristics, microbial ecology and cheese safety, traceability and authentication of cheeses with protected labels, and traditional wooden equipment used for cheesemaking, while an overview of the cheesemaking process is also presented. Part II describes 100 global cheeses from 17 countries, divided into 13 categories. The cheeses described are well-known types produced in large quantities worldwide, together with some important locally produced, in order to stimulate scientific interest in these cheese varieties. Each category is presented in a separate chapter with relevant research on each cheese and extensive referencing to facilitate further reading.

Food Science: An Ecological Approach presents the field of food science—the study of the physical, biological, and chemical makeup of food, and the concepts underlying food processing—in a fresh, approachable manner that places it in the context of the world in which we live today.

Cosmetic Science and Technology: Theoretical Principles and Applications covers the fundamental aspects of cosmetic science that are necessary to understand material development, formulation, and the dermatological effects that result from the use of these products. The book fulfills this role by offering a comprehensive view of cosmetic science and technology, including environmental and dermatological concerns. As the cosmetics field quickly applies cutting-edge research to high value commercial products that have a large impact in our lives and on the world's economy, this book is an indispensable source of information that is ideal for experienced researchers and scientists, as well as non-scientists who want to learn more about this topic on an introductory level. Covers the science, preparation, function, and interaction of cosmetic products with skin Addresses safety and environmental concerns related to cosmetics and their use Provides a graphical summary with short introductory explanation for each topic Relates product type performance to its main components Describes

manufacturing methods of oral care cosmetics and body cosmetics in a systematic manner

From listing the steps involved in a sensory evaluation project to presenting advanced statistical methods, *Sensory Evaluation Techniques, Fourth Edition* covers all phases of sensory evaluation. Like its bestselling predecessors, this edition continues to detail all sensory tests currently in use, to promote the effective employment of these tests, and to describe major sensory evaluation practices. The expert authors have updated and added many areas in this informative guide. New to this edition are expanded chapters on qualitative and quantitative consumer research and the Spectrum™ method of descriptive sensory analysis that now contains full descriptive lexicons for numerous products, such as cheese, mayonnaise, spaghetti sauce, white bread, cookies, and toothpaste. Also new in this chapter is a set of revised flavor intensity scales for crispness, juiciness, and some common aromatics. The book now includes an overview of Thurstonian scaling that examines the decision processes employed by assessors during their evaluations of products. Another addition is a detailed discussion of data-relationship techniques, which link data from diverse sources that are collected on the same set of examples. With numerous examples and sample tests, *Sensory Evaluation Techniques, Fourth Edition* remains an essential resource that illustrates the development of sensory perception testing.

With a foreword written by Professor Ludwig Narziss—one of the world's most notable brewing scientists—the *Handbook of Brewing, Third Edition*, as it has for two previous editions, provides the essential information for those who are involved or interested in the brewing industry. The book simultaneously introduces the basics—such as the biochemistry and microbiology of brewing processes—and also deals with the necessities associated with a brewery, which are steadily increasing due to legislation, energy priorities, environmental issues, and the pressures to reduce costs. Written by an international team of experts recognized for their contributions to brewing science and technology, it also explains how massive improvements in computer power and automation have modernized the brewhouse, while developments in biotechnology have steadily improved brewing efficiency, beer quality, and shelf life.

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

Meat has been a long sought after source of nutrients in human diets. Its nutrient-dense composition of protein, fats, vitamins and minerals makes it an integral part to healthy and balanced diets. As demand for meat continues to increase globally, a better understanding of efficiently producing quality meat products is becoming increasingly important. The *Science of Meat Quality* provides comprehensive coverage of meat quality from the biological basis of muscle development to end-product-use topics such as preparation and sensory analysis. The *Science of Meat Quality* explores the basis of meat quality long before it hits grocery store shelves. The book opens with a look at cellular muscle tissue development, metabolism and physiology. Subsequent chapters look at topics surrounding the development of tenderness, water-holding capacity, lipid oxidation and color in meat products. The final chapters discuss producing a good-tasting end product from preparing meat to preventing food-borne illness. Each chapter contains not only the theory behind that topic, but also detailed lab methodologies for measuring each meat quality trait. The *Science of Meat Quality* is an essential resource and reference for animal scientists, meat scientists, food scientists, and food industry personnel. Meat has been a long sought after source of nutrients in human diets. Its nutrient-dense composition of protein, fats, vitamins and minerals makes it an integral part to healthy and balanced diets. As demand for meat continues to increase globally, a better understanding of efficiently producing quality meat products is becoming increasingly important. The *Science of Meat Quality* provides comprehensive coverage of meat quality from the biological basis of muscle development to end-product-use topics such as preparation and sensory analysis. The *Science of Meat Quality* explores the basis of meat quality long before it hits grocery store shelves. The book opens with a look at cellular muscle tissue development, metabolism and physiology. Subsequent chapters look at topics surrounding the development of tenderness, water-holding capacity, lipid oxidation and color in meat products. The final chapters discuss producing a good-tasting end product from preparing meat to preventing food-borne illness. Each chapter contains not only the theory behind that topic, but also detailed lab methodologies for measuring each meat quality trait. The *Science of Meat Quality* is an essential resource and reference for animal scientists, meat scientists, food scientists, and food industry personnel.

*Flavor: From Food to Behaviors, Wellbeing and Health* is the first single-volume resource focused on the different mechanisms of flavor perception from food ingestion, to sensory image integration and the physiological effects that may explain food behaviors. The information contained is highly multidisciplinary, starting with chemistry and biochemistry, and then continuing with psychology, neurobiology, and sociology. The book gives coherence between results obtained in these fields to better explain how flavor compounds may modulate food intake and behavior. When available, physiological mechanisms and mathematical models are explained. Since almost half a billion people suffer from obesity and food related chronic diseases in the world, and since recent research has investigated the possible roles of pleasure linked to the palatability of food and eating pleasure on food intake, food habits, and energy regulation, this book is a timely resource on the topic. This book links these results in a logical story, starting in the food and the food bolus, and explaining how flavor compounds can reach different receptors, contribute to the emergence of a sensory image, and modulate other systems recognized as controlling food intake and food behavior. The influence of age, physiological disorders, or social environments are included in this approach since these parameters are known to influence the impact of food flavor on human behavior. Uniquely brings together multidisciplinary fields to explain, in a narrative structure, how flavor compounds may modulate food intake and behavior Includes discussions of chemistry and biochemistry, psychology, neurobiology, and sociology Presents an extremely current view that offers a wide perspective on flavor, an area of rapidly expanding knowledge Edited by renowned experts in the field of flavor perception

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