

Principles Of Meat Science Ebooks Ebooktake

The approach to teaching the concepts of food processing to the undergraduate food science major has evolved over the past 40 years. In most undergraduate food science curricula, food processing has been taught on a commodity basis. In many programs, several courses dealt with processing with emphasis on a different commodity, such as fruits and vegetables, dairy products, meat products, and eggs. In most situations, the emphasis was on the unique characteristics of the commodity and very little emphasis on the common elements associated with processing of the different commodities. Quite often the undergraduate student was allowed to select one or two courses from those offered in order to satisfy the minimum standards suggested by the Institute of Food Technologists. The current 1FT minimum standards suggest that the undergraduate food science major be required to complete at least one food processing course. The description of this course is as follows: One course with lecture and laboratory which covers general characteristics of raw food materials, principles of food preservation, processing factors that influence quality, packaging, water and waste management, and sanitation. Prerequisites: general chemistry, physics, and general microbiology.

Coen describes the four ways that life, in the broadest term, is transformed: development through patterning, Darwinian selection, modifying neural interactions and connections, and cultural change as a result of human behavior and interaction; and argues that these four means of transformation are better understood not as separate processes, but as one common set of mechanisms for life's transformations.

Lipid oxidation in food leads to rancidity, which compromises the sensory properties of food and makes it unappealing to consumers. The growing trend towards natural additives and preservatives means that new antioxidants are emerging for use in foods. This book provides an overview of the food antioxidants currently available and their applications in different food products. Part one provides background information on a comprehensive list of the main natural and synthetic antioxidants used in food. Part two looks at methodologies for using antioxidants in food, focusing on the efficacy of antioxidants. Part three covers the main food commodities in which antioxidants are used. Reviews the various types of antioxidants used in food preservation, including chapters on tea extracts, natural plant extracts and synthetic phenolics. Analyses the performance of antioxidants in different food systems. Compiles significant international research and advancements.

Natural products are sought after by the food, pharmaceutical and cosmetics industries, and research continues into their potential for new applications. Extraction of natural products in an economic and environmentally-friendly way is of high importance to all industries involved. This book presents a holistic and in-depth view of the techniques available for extracting natural products, with modern and more environmentally-benign methods, such as ultrasound and supercritical fluids discussed alongside conventional methods. Examples and case studies are presented, along with the decision-making process needed to determine the most appropriate method. Where appropriate, scale-up and process integration is discussed. Relevant to researchers in academia and industry, and students aiming for either career path, Natural Product Extraction presents a handy digest of the current trends and latest developments in the field with concepts of Green Chemistry in mind.

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.

The Encyclopedia of Meat Sciences is an impressive and important body of work. Prepared by an international team of experts, this reference work covers all important aspects of meat science from stable to table, including animal breeding, physiology and slaughter, meat preparation, packaging, welfare, and food safety, to name a few. This Encyclopedia further covers important topics such as food microbiology, meat in human nutrition, biotechnological advances in breeding and many more. The Encyclopedia of Meat Sciences is an invaluable resource to practitioners of meat science and students alike. Also available online via ScienceDirect - featuring extensive browsing, searching, and internal cross-referencing between articles in the work, plus dynamic linking to journal articles and abstract databases, making navigation flexible and easy. For more information, pricing options and availability visit www.info.sciencedirect.com. Foreword written by Rt. Hon. Helen Clark, Prime Minister of New Zealand. Over 200 articles covering all aspects of meat science. Reading lists at the end of each article provide further information into primary literature. Various figures and tables illustrating the text and a color plate section in each volume. Appeals to students, academics, researchers and professionals working not only in meat science, but also food science, veterinary sciences, agricultural engineering and livestock management. Extensive cross-referencing.

Animal Agriculture: Sustainability, Challenges and Innovations discusses the land-based production of high-quality protein by livestock and poultry and how it plays an important role in improving human nutrition, growth and health. With exponential growth of the global population and marked rises in meat consumption per capita, demands for animal-source protein are expected to increase 72% between 2013 and 2050. This raises concerns about the sustainability and environmental impacts of animal agriculture. An attractive solution to meeting increasing needs for animal products and mitigating undesirable effects of agricultural practices is to enhance the efficiency of animal growth, reproduction, and lactation. Currently, there is no resource that offers specific knowledge of both animal science and technology, including biotechnology for the sustainability of animal agriculture for the expanding global demand of food in the face of diminishing resources. This book fills that gap, giving readers all the necessary information on important issues facing modern animal agriculture, namely its sustainability, challenges and innovative solutions. Integrates new knowledge in animal breeding, biotechnology, nutrition, reproduction and management Addresses the urgent issue of sustainability in modern animal agriculture Provides practical solutions on how to solve the current and future problems that face animal agriculture worldwide

The Science of Animal Growth and Meat Technology, Second Edition, combines fundamental science- based and applied, practical concepts relating to the prenatal and postnatal growth of cattle, sheep and pigs. It provides the necessary components to understand the production and growth of livestock for safe and quality meat products and presents an understanding of the principles of meat science and technology that is needed to understand the meat industry. Information on the slaughter process of animals, muscle structure and meat tenderness, meat quality, meat safety, and microbiology makes this a valuable self-study reference for students and professionals entering the field. Describes principles in muscle metabolism, meat quality and meat safety using case studies Discusses the microbial safety of meat products, primary pathogens of concern, and pathogen detection Offers solutions on how to control bacterial growth to improve the safety and quality of meat Presents a new chapter on packaging for meat and meat products that focuses on flexible film technology, packaging materials and equipment technology Includes new information on inspection systems prior to slaughter, during slaughter, and the inspection of meat processing systems

Written as a textbook with an online laboratory manual for students and adopting faculties, this work is intended for non-science majors / liberal studies science courses and will cover a range of scientific principles of food, cooking and the science of taste and smell. Chapters include: The Science of Food and Nutrition of Macromolecules; Science of Taste and Smell; Milk, Cream, and Ice Cream, Metabolism and Fermentation; Cheese, Yogurt, and Sour Cream; Browning; Fruits and Vegetables; Meat, Fish, and Eggs; Dough, Cakes, and Pastry; Chillies, Herbs, and Spices; Beer and Wine; and Chocolate, Candy and Other Treats. Each chapters begins with biological, chemical, and /or physical principles underlying food topics, and a discussion of what is happening at the molecular level. This unique approach is unique should be attractive to chemistry, biology or biochemistry departments looking for a new way to bring students into their classroom. There are no pre-requisites for the course and the work is appropriate for all college levels and majors.

Food Safety and Human Health provides a framework to manage food safety risks and insure safe food system. This reference takes a reader-friendly approach in presenting the entire range of toxic compounds found naturally in foods or introduced by industrial contamination or food processing methods. It provides the basic principles of food toxicology and its processing and safety for human health to help professionals and students better understand the real problems of toxic materials. This essential resource will help readers address problems regarding food contamination and safety. It will be particularly useful for graduate students, researchers and professionals in the agri-food industry. Encompasses the first pedagogic treatment of the entire range of toxic compounds found naturally in foods or introduced by industrial contamination or food processing methods Features areas of vital concern to consumers, such as the toxicological implications of food, implications of food processing and its safety to human health Focuses on the safety aspects of genetically modified foods currently available

Large volume food processing and preparation operations have increased the need for improved sanitary practices from processing to consumption. This trend presents a challenge to every employee in the food processing and food preparation industry. Sanitation is an applied science for the attainment of hygienic conditions. Because of increased emphasis on food safety, sanitation is receiving increased attention from those in the food industry. Traditionally, inexperienced employees with few skills who have received little or no training have been delegated sanitation duties. Yet sanitation employees require intensive training. In the past, these employees, including sanitation program managers, have had only limited access to material on this subject. Technical information has been confined primarily to a limited number of training manuals provided by regulatory agencies, industry and association manuals, and recommendations from equipment and cleaning compound firms. Most of this material lacks specific information related to the selection of appropriate cleaning methods, equipment, compounds, and sanitizers for maintaining hygienic conditions in food processing and preparation facilities. The purpose of this text is to provide sanitation information needed to ensure hygienic practices. Sanitation is a broad subject; thus, principles related to contamination, cleaning compounds, sanitizers, and cleaning equipment, and specific directions for applying these principles to attain hygienic conditions in food processing and food preparation are discussed. The discussion starts with the importance of sanitation and also includes regulatory requirements and voluntary sanitation programs including additional and updated information on Hazard Analysis Critical Control Points (HACCP).

Outlining the core principles of the subject, this introductory-level textbook covers the production of meat, its structure and chemical composition, meat quality and hygiene, and animal welfare, handling and slaughter. The new edition has been updated to cover significant advances such as the process of conditioning, leading to the tenderization of meat, and new coverage of the use of molecular genetic techniques to try to select animals for improved meat quality. It is an essential text for students and professionals in food science and technology, those working in the meat industry, meat inspectors, and vets. * New larger format in two colors throughout * Fully revised and updated including new coverage of genomics * Carefully selected references and titles for further reading

This new edition of Rabbit Production has been fully updated throughout. Mainly concerning rabbits bred for meat and fur, it also contains practical information on pet rabbits, show rabbits and

rabbits used as laboratory animals. Core topics are covered, including rabbit genetics, reproduction, health and diseases, behavior, welfare, fur and meat production, rabbit production in developing countries, slaughter and the marketing of rabbit products. Current areas of interest such as animal welfare and coat color genetics are expanded in the new edition. An important resource for all those involved in rabbit production, this book is also vital reading for students and researchers of animal science and meat production, as well as the keen amateur rabbit enthusiast.

The book entitled "Principles of Meat Technology" has been designed keeping in mind the recent course-curriculum of the Veterinary Council of India. All the topics included in VCI syllabus for Meat Science subject have been illustrated and discussed in detail. The reference material and current scientific information on the subject will be of interest to the meat processing industry and persons having some stakes in this subject. This book is broadly covering fresh meat and aquatic foods, their processing, preservation, packaging, standards and biotechnological applications in this specialized field. Livestock Products Technology is a new subject for veterinary professionals. Understanding of this subject particularly product's quality, handling and processing is not as easy as it seems. So the efforts put in the book in form of material, scientific facts and language will help in understanding the meat science to the students of veterinary science, food science and technology, fish technology, meat technologists, academicians of this field, technicians engaged and the processors of animals and fish products.

An interesting and accessible introduction to ethical issues raised by various forms of human use of animals. This textbook avoids moral lecturing and presents a range of ethical viewpoints without defending or applying any specific stance. Readers are encouraged and provoked to reflect for themselves, and to sharpen their own points of view regarding the ethical limits on our use of animals. They will also gain further understanding of the views held by other people. Early chapters of this interdisciplinary book cover changes overtime in our view of animals, the principles of animal ethics, and different views of what counts as a good animal life. Later chapters apply the conceptual tools to specific issues including: food animal production, advanced veterinary treatment of pets, control of infectious diseases, wildlife management, as well as the use of animals in research. Specifically designed for students of veterinary medicine, animal science, welfare and behaviour, and veterinary nursing. Also of interest to those wanting to combine an up-to-date, science-based account of animal issues with clear-headed moral reflection. "The book covers an impressive range of topics with accuracy and fairness. Despite its ambitious scope, the authors have achieved remarkable unity in the book, and have produced a book that is easy and pleasant to read. Their work will surely provide a major tool for rationalizing the debate about the ethics of animal use, and I commend them for their invaluable contribution." From the Foreword by Professor Bernard Rollin, Colorado State University.

The Encyclopedia of Food and Health provides users with a solid bridge of current and accurate information spanning food production and processing, from distribution and consumption to health effects. The Encyclopedia comprises five volumes, each containing comprehensive, thorough coverage, and a writing style that is succinct and straightforward. Users will find this to be a meticulously organized resource of the best available summary and conclusions on each topic. Written from a truly international perspective, and covering of all areas of food science and health in over 550 articles, with extensive cross-referencing and further reading at the end of each chapter, this updated encyclopedia is an invaluable resource for both research and educational needs. Identifies the essential nutrients and how to avoid their deficiencies Explores the use of diet to reduce disease risk and optimize health Compiles methods for detection and quantitation of food constituents, food additives and nutrients, and contaminants Contains coverage of all areas of food science and health in nearly 700 articles, with extensive cross-referencing and further reading at the end of each chapter

Retitled to reflect expansion of coverage from the first edition, Handbook of Meat and Meat Processing, Second Edition, contains a complete update of materials and nearly twice the number of chapters. Divided into seven parts, the book covers the entire range of issues related to meat and meat processing, from nutrients to techniques for preservation and extending shelf life. Topics discussed include: An overview of the meat-processing industry The basic science of meat, with chapters on muscle biology, meat consumption, and chemistry Meat attributes and characteristics, including color, flavor, quality assessment, analysis, texture, and control of microbial contamination The primary processing of meat, including slaughter, carcass evaluation, and kosher laws Principles and applications in the secondary processing of meat, including braising, curing, fermenting, smoking, and marinating The manufacture of processed meat products such as sausage and ham The safety of meat products and meat workers, including sanitation issues and hazard analysis Drawn from the combined efforts of nearly 100 experts from 16 countries, the book has been carefully vetted to ensure technical accuracy for each topic. This definitive guide to meat and meat products it is a critical tool for all food industry professionals and regulatory personnel.

EXPLORING ANIMAL SCIENCE offers educators the perfect tool for teaching animal agriculture: one that balances the academic background critical to building a strong foundation in fundamental science with the practical, production-oriented content vital to work in the real world. Its coverage spans a variety of areas like nutrition, anatomy and physiology, biotechnology, biosecurity, and genetics and animal reproduction. Each topic is presented in a straightforward manner that first investigates the basics, and then delves further into its practical application to the production, care, and management of animal agriculture. Ideal for a range of students, from late middle school to early high school, this unique approach is sure to engage by drawing such powerful connections between academics and real-life animal-based scenarios and situations. It also includes a wide range of activities that will fit any animal science classroom, making it an appealing choice for teachers and students alike. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Nutrition is the key driver of animal health, welfare and production. In agriculture, nutrition is crucial to meet increasing global demands for animal protein and consumer demands for cheaper meat, milk and eggs and higher standards of animal welfare. For companion animals, good nutrition is essential for quality and length of life. Animal Nutrition examines the science behind the nutrition and feeding of the major domesticated animal species: sheep, beef cattle, dairy cattle, deer, goats, pigs, poultry, camelids, horses, dogs and cats. It includes introductory chapters on digestion and feeding standards, followed by chapters on each animal, containing information on digestive anatomy and physiology, evidence-based nutrition and feeding requirements, and common nutritional and metabolic diseases. Clear diagrams, tables and breakout boxes make this text readily understandable and it will be of value to tertiary students and to practising veterinarians, livestock consultants, producers and nutritionists.

Here is the complete source of information on egg handling, processing, and utilization. Egg Science and Technology, Fourth Edition covers all aspects of grading, packaging, and merchandising of shell eggs. Full of the information necessary to stay current in the field, Egg Science and Technology remains the essential reference for everyone involved in the egg industry. In this updated guide, experts in the field review the egg industry and examine egg production practices, quality identification and control, egg and egg product chemistry, and specialized processes such as freezing, pasteurization, desugarization, and dehydration. This updated edition explores new and recent trends in the industry and new material on the microbiology of shell eggs, and it presents a brand-new chapter on value-added products. Readers can seek out the most current information available in all areas of egg handling and discover totally new material relative to fractionation of egg components for high value, nonfood uses. Contributing authors to Egg Science and Technology present chapters that cover myriad topics, ranging from egg production practices to nonfood uses of eggs. Some of these specific subjects include: handling shell eggs to maintain quality at a level for customer satisfaction trouble shooting problems during handling chemistry of the egg, emphasizing nutritional value and potential nonfood uses merchandising shell eggs to maximize sales in refrigerated dairy sales cases conversion of shell eggs to liquid, frozen, and dried products value added products and opportunities for merchandising egg products as consumers look for greater convenience Egg Science and Technology is a must-have reference for agricultural libraries. It is also an excellent text for upper-level undergraduate and graduate courses in food science, animal science, and poultry departments and is an ideal guide for professionals in related food industries, regulatory agencies, and research groups.

Analytical Methods for Pesticides, Plant Growth Regulators, and Food Additives, Volume 1: Principles, Methods, and General Applications provides information on analytical techniques useful for the determination of pesticides, plant growth regulators, and food additives. The book discusses the potential hazard of minute residues to human and animal health; the principles of formulation and residue analyses; and the principles of food additive analysis. The text also describes the extraction and clean-up procedures; and the principles of toxicological testing methods. The methods for pesticide analysis in meat products; and the formulation and residue analysis in government laboratories are also considered. The book further tackles other methods, such as spectrophotometric methods, chromatography, isotope methods, enzymatic methods; and bioassay. Agricultural toxicologists and people studying pesticides and food additives will find the text invaluable.

Get answers to all your cooking science questions, and cook tastier, more nutritious food using fundamental principles, practical advice, and step-by-step techniques. Where does the heat come from in a chili pepper? Why is wild salmon darker than farmed? Does searing meat really "seal in" the juices? A good recipe goes a long way, but if you can master the science behind it, you'll be one step ahead. Using full-color images, stats and facts through infographics, and an engaging Q&A format to show you how to perfect your cooking, The Science of Cooking brings food science out of the lab and into your kitchen. Topics include meat and poultry, seafood, dairy, pulses and grains, fruits, vegetables, spices, herbs, baked goods, and more, making it perfect for perfecting everyday cooking as well as for special meals.

If you are teaching - or learning - to teach primary science, this is the toolkit to support you! Highly respected and widely used, Essential Primary Science 2E blends essential subject knowledge with a vast array of teacher activities. Updated and revised throughout to reflect the requirements of the new National Curriculum, it covers the essential knowledge and understanding that you need; plus it offers over 200 great ideas for teaching primary science at KS1 and KS2 - so no more late nights thinking up creative new ways to teach key concepts! Written in a friendly and supportive style this new edition offers: Over 200 original and new activities to complement the new curriculum, ready for you to try out in the classroom Tips on how to ensure each lesson includes both practical and investigative elements Suggestions on how to make your lessons engaging, memorable and inclusive How to deal with learners' common scientific misconceptions in each topic Two new chapters on working scientifically and how to tackle assessment New up-to-date web links to quality free resources Drawing on their own extensive teaching experience and understanding of the new National Curriculum, the authors provide the essential guide to teaching primary science for both trainee teachers and qualified teachers who are not science specialists.

Meat Science, Fourth Edition focuses on the science of meat, from the initiation of life in the meat animal to the absorption of its nutrients by the human consumer. This edition updates the topics on hormonal control of reproduction and growth, pre-slaughter stress, modes of stunning and bleeding, refrigeration, eating quality, and consumer health. A section has been added on the electrical stimulation of carcasses post-mortem, emphasizing the differing susceptibility of individual muscles to cold shock on the one hand and to undergo conditioning changes on the other. The developments, such as the mechanical recovery of meat, its modification by high pressure, its reformation after controlled comminution, and incorporation with it of proteins from abattoir waste or non-meat sources are also elaborated in this book. This publication is beneficial to students and individuals researching on the food science of meat.

There has been a need for a comprehensive one-volume reference on the manufacture of meats and sausages at home. There are many cookbooks loaded with recipes which do not build any foundation for the serious hobbyist to follow. This leaves him with little understanding of the sausage making process and afraid to introduce his own ideas. There are professional books that are written for meat plant managers or graduate students, unfortunately, these works are written in such difficult technical terms, that most of them are beyond the comprehension of an average person. Home Production of Quality Meats and Sausages bridges the gap that exists between highly technical textbooks and the requirements of the typical hobbyist. In order to simplify this gap to the absolute minimum, technical terms were substituted with their equivalent but simpler terms and many photographs, drawings and tables were included. The book covers topics such as curing and making brines, smoking meats and sausages, U.S. Standards, making fresh, smoked, emulsified, fermented and air dried products, making special sausages such as head cheeses, blood and liver sausages, low salt, low fat and Kosher products, hams, bacon, butts and loins, poultry, fish and game, creating your own recipes and much more... To get the reader started 172 recipes are provided which were chosen for their originality and historical value. They carry an enormous value as a study material and as a valuable resource on making meat products and sausages. Although recipes play an important role in these products, it is the process that ultimately decides the sausage quality. It is perfectly clear that the authors don't want the reader to copy the recipes only: "We want him to understand the sausage making process and we want him to create his own recipes. We want him to be the sausage maker."

Food Processing: Principles and Applications second edition is the fully revised new edition of this best-selling food technology title. Advances in food processing continue to take place as food scientists and food engineers adapt to the challenges imposed by emerging pathogens, environmental concerns, shelf life, quality and safety, as well as the dietary needs and demands of humans. In addition to covering

food processing principles that have long been essential to food quality and safety, this edition of *Food Processing: Principles and Applications*, unlike the former edition, covers microbial/enzyme inactivation kinetics, alternative food processing technologies as well as environmental and sustainability issues currently facing the food processing industry. The book is divided into two sections, the first focusing on principles of food processing and handling, and the second on processing technologies and applications. As a hands-on guide to the essential processing principles and their applications, covering the theoretical and applied aspects of food processing in one accessible volume, this book is a valuable tool for food industry professionals across all manufacturing sectors, and serves as a relevant primary or supplemental text for students of food science.

This book provides new insights into the production of meat, the burden of diseases associated with excessive meat consumption, undernutrition associated with insufficiency of meat products, and different health-related indicators related to meat and nutrition. This book is useful for researchers, policy makers, and students in medical science, food science, nursing, and public health.

Food Safety Management: A Practical Guide for the Food Industry with an Honorable Mention for Single Volume Reference/Science in the 2015 PROSE Awards from the Association of American Publishers is the first book to present an integrated, practical approach to the management of food safety throughout the production chain. While many books address specific aspects of food safety, no other book guides you through the various risks associated with each sector of the production process or alerts you to the measures needed to mitigate those risks. Using practical examples of incidents and their root causes, this book highlights pitfalls in food safety management and provides key insight into the means of avoiding them. Each section addresses its subject in terms of relevance and application to food safety and, where applicable, spoilage. It covers all types of risks (e.g., microbial, chemical, physical) associated with each step of the food chain. The book is a reference for food safety managers in different sectors, from primary producers to processing, transport, retail and distribution, as well as the food services sector. Honorable Mention for Single Volume Reference/Science in the 2015 PROSE Awards from the Association of American Publishers Addresses risks and controls (specific technologies) at various stages of the food supply chain based on food type, including an example of a generic HACCP study Provides practical guidance on the implementation of elements of the food safety assurance system Explains the role of different stakeholders of the food supply

Meat holds an important position in human nutrition. Although protein from this source has lower biological value than egg albumin, it is an exclusive source of heme iron and vitamins and minerals. Fat content and fatty acid profile from this source are a constant matter of concern. Though currently meat utilization is linked with an array of maladies, including atherosclerosis, leukemia, and diabetes, meat has a noteworthy role not only for safeguarding proper development and health, but also in human wellbeing. Enormous scientific investigations have proved that consuming meat has had a beneficial role in cranial/dental and gastrointestinal tract morphologic changes, human upright stance, reproductive attributes, extended lifespan, and maybe most prominently, in brain and cognitive development.

This introductory level textbook covers the welfare and environmental implications of producing cattle as well as traditional subjects such as nutrition, reproduction and housing. Its broad, international coverage includes feedlot systems, transport, subsistence farming systems and the contribution of cattle production systems to land, air and water pollution. It is an invaluable resource for undergraduate students of animal science, veterinary medicine and agriculture, as well as diploma and certificate courses and industry personnel.

Lawrie's Meat Science, Eighth Edition, provides a timely and thorough update to this key reference work, documenting significant advances in the meat industry, including storage and preservation of meat, the eating quality of meat, and meat safety. The book examines the growth and development of meat animals, from the conversion of muscle to meat and eventual point of consumption. This updated volume has been expanded to include chapters examining such areas as packaging and storage, meat tenderness, and meat safety. Furthermore, central issues such as the effects of meat on health and the nutritional value of meat are analyzed. Broadly split into four sections, the book opens with the fundamentals behind the growth of meat animals. The second section covers the storage and spoilage of meat products, with the third section exploring the eating quality of meat, from flavor to color. The final section reviews meat safety, authenticity, and the effect of meat on health. Encompasses the recognized gold-standard reference for the meat industry Brings together leading experts in each area, providing a complete overview of the meat sciences Includes all the latest advances, bringing this new edition completely up-to-date, including developments in meat quality, safety, and storage

Synopsis: The ninth edition of this best-selling book examines the biological principles, scientific relationships, and management practices of livestock production. Blending the discussion of science, disciplines and industries, it effectively introduces readers to Animal Science using a breadth and depth that is unparalleled. Following a logical organization, it first discusses animal products, then basic biological principles (growth, genetics, reproduction, nutrition, health, etc.) and finally the feeding, breeding and management of primary livestock industries. It also gives readers insight into the societal issues surrounding the livestock industry and an overview of the careers and opportunities available within the field.

Cultivate a career in food science with *INTRODUCTION TO FOOD SCIENCE AND FOOD SYSTEMS*, 2nd Edition! Uncover the foundations of the modern food industry, from nutrition and chemistry to processing and safety, and delve into some of the most pressing foodborne issues of our day. Laced with full-color images, drawings, charts, and graphs, chapters discuss the latest information on genetically engineered foods, environmental concerns and sustainability, food needs of the world, the impacts of food on health, and more. *INTRODUCTION TO FOOD SCIENCE AND FOOD SYSTEMS*, 2nd Edition also tests your understanding of agriscience concepts with practical, hands-on activities in math, science and other key areas, aligning the readings with National Agricultural Education Standards and FFA Career Development Events (CDEs). Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Extrusion Cooking provides a detailed description of extrusion processing with an in-depth exploration of cereal grains processing. In particular, the book addresses the basic principles of extrusion processing, various extruder parts and their design principles, food ingredients and their characteristics as they relate to extrusion. It also discusses physicochemical changes in the different ingredient components as they are processed in an extruder, modeling and control of extrusion process, scale-up aspects, extrusion plant design, food safety in extrusion, new advancements in extrusion, and a look into the future of extrusion. This valuable text serves as a one-volume reference on extrusion processing for food industry professionals and students. Covers the engineering, chemistry, nutrition, and food safety aspects of extrusion cooking Presents both the fundamental and applied aspects of extrusion processing Details the extrusion of whole-grain, high-fiber, and high-protein foods Covers both expanded and texturized products Outlines extrusion processing of different ingredients Addresses new technologies that have expanded the extruder capabilities Analyzes new developments in the area of modeling of extrusion processing

Written by an international panel of professional and academic peers, the book provides the engineer and technologist working in research, development and operations in the food industry with critical and readily accessible information on the art and science of infrared spectroscopy technology. The book should also serve as an essential reference source to undergraduate and postgraduate students and researchers in universities and research institutions. Infrared (IR) Spectroscopy deals with the infrared part of the electromagnetic spectrum. It measure the absorption of different IR frequencies by a sample positioned in the path of an IR beam. Currently, infrared spectroscopy is one of the most common spectroscopic techniques used in the food industry. With the rapid development in infrared spectroscopic instrumentation software and hardware, the application of this technique has expanded into many areas of food research. It has become a powerful, fast, and non-destructive tool for food quality analysis and control. Infrared Spectroscopy for Food Quality Analysis and Control reflects this rapid technology development. The book is divided into two parts. Part I addresses principles and instruments, including theory, data treatment techniques, and infrared spectroscopy instruments. Part II covers the application of IRS in quality analysis and control for various foods including meat and meat products, fish and related products, and others. *Explores this rapidly developing, powerful and fast non-destructive tool for food quality analysis and control *Presented in two Parts -- Principles and Instruments, including theory, data treatment techniques, and instruments, and Application in Quality Analysis and Control for various foods making it valuable for understanding and application *Fills a need for a comprehensive resource on this area that includes coverage of NIR and MVA

The Second Edition of this popular textbook has benefited from several years of exposure to both teachers and students. Based on their own experiences as well as those of others, the authors have reorganized, added, and updated this work to meet the needs of the current curriculum. As with the first edition the goal is to introduce the beginning student to the field of food science and technology. Thus, the book discusses briefly the complex of basic sciences fundamental to food processing and preservation as well as the application of these sciences to the technology of providing the consumer with food products that are at once appealing to the eye, pleasing to the palate, and nutritious to the human organism. Introduction to Food Science and Technology is set in the world in which it operates; it contains discussions of historical development, the current world food situation, the safety regulations and laws that circumscribe the field, and the careers that it offers.

Roughly 95% of Americans don't appear to have an ethical problem with animals being killed for food, yet all of us would have a serious problem with humans being killed for food. What does an animal lack that a human has that justifies killing the animal for food but not the human? As you start to list properties that the animal lacks to justify eating them, you begin to realize that some humans also lack those properties, yet we don't eat those humans. Is this logical proof that killing and eating animals for food is immoral? Don't put away your steak knife just yet. In *Eat Meat... Or Don't*, we examine the moral arguments for and against eating meat with both philosophical and scientific rigor. This book is not about pushing some ideological agenda; it's ultimately a book about critical thinking. But moral facts shouldn't be confused with ideology. When it comes to moral choices, there are better ones, and there are worse ones. If you act rationally and ethically and have adopted a good moral framework, you might come to the justified conclusion that eating meat is unethical... or you might not. Regardless of your conclusion, you will almost certainly realize that eating less meat is a fantastic idea for your health, the environment, and especially animals, and it's an easily achievable goal that will change your life for the better.

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