

2015 Global Feed Survey Alltech

This book is about important relevant recent research topics in sustainable aquaculture practices. A critical assessment of the sustainable fishing methods and the aspect of sustainable aquaculture feed is presented in this volume. A special focus has been given to socio-economic and environmental assessment of aquaculture practices and analysis of carbon footprint under an intensive aquaculture regime. Aquaponics as a niche for sustainable modern aquaculture has been highlighted. The effect of use of pharmaceuticals to prevent fish disease on the surrounding marine environment is an emerging area of concern, and a critical discussion on this aspect is included in the book. The spread of organic waste and nutrients released by fish farms to natural water bodies has raised considerable concerns. Therefore the methods to prevent their dispersion and removal (treatment) have been comprehensively covered in this book. This book is an essential read for academician, researchers, and policy makers in the field of aquaculture.

This book examines the successful private, public and civil society models of agriculture value chains in India and addresses relevant challenges and opportunities to improve their efficiency and inclusiveness. It promotes the value-chain approach as a tool to improve access to finance for small holder farmers and discusses the possible structure of and regulatory framework for the 'National Common Agricultural Market'— a term that featured in the Indian Finance Minister's 2014–15 budget speech, and which is aimed towards standardizing and improving transparency in agricultural trade practices across states under a single licensing system. The book deliberates on the potential of developing innovative financial instruments into the value chain framework by supporting tripartite agreements between producers, lead firms and financial institutions. Its fourteen chapters are divided into three parts—Agriculture Value Chain Financing: Theoretical Framework, Agriculture Value Chain Financing in Cases of Select Commodities; and Institutional Framework for Agriculture Value Chain Financing. Since the concept of value chain financing is being considered as a future policy agenda, the book is of great interest to corporations dealing with agricultural inputs and outputs; commercial, regional, rural and cooperative banks; policy makers; academicians and NGOs.

This widely used reference has been updated and revamped to reflect the changing face of the dairy industry. New features allow users to pinpoint nutrient requirements more accurately for individual animals. The committee also provides guidance on how nutrient analysis of feed ingredients, insights into nutrient utilization by the animal, and formulation of diets to reduce environmental impacts can be applied to productive management decisions. The book includes a user-friendly computer program on a compact disk, accompanied by extensive context-sensitive "Help" options, to simulate the dynamic state of animals. The committee addresses important issues unique to dairy science—the dry or transition cow, udder edema, milk fever, low-fat milk, calf dehydration, and more. The also volume covers dry matter intake, including how to predict feed intake. It addresses the management of lactating dairy cows, utilization of fat in calf and lactation diets, and calf and heifer replacement nutrition. In addition, the many useful tables include updated nutrient composition for commonly used feedstuffs.

Proteins: Sustainable Source, Processing and Applications addresses sustainable proteins, with an emphasis on proteins of animal origin, plant-based and insect proteins, microalgal single cell proteins, extraction, production, the stability and bioengineering of proteins, food applications (e.g. encapsulation, films and coatings), consumer behavior and sustainable consumption. Written in a scientific manner to meet the needs of chemists, food scientists, technologists, new product developers and academics, this book addresses the health effects and properties of proteins, highlights sustainable sources, processes and consumption models, and analyzes the potentiality of already commercialized processes and products. This book is an integral resource that supports the current applications of proteins in the food industry, along with those that are currently under development. Supports the current applications of proteins in the food industry, along with those that are under development Connects the properties and health effects of proteins with sustainable sources, recovery procedures, stability and encapsulation Explores industrial applications that are affected by aforementioned aspects

Edible insects have always been a part of human diets, but in some societies there remains a degree of disdain and disgust for their consumption. Insects offer a significant opportunity to merge traditional knowledge and modern science to improve human food security worldwide. This publication describes the contribution of insects to food security and examines future prospects for raising insects at a commercial scale to improve food and feed production, diversify diets, and support livelihoods in both developing and developed countries. Edible insects are a promising alternative to the conventional production of meat, either for direct human consumption or for indirect use as feedstock. This publication will boost awareness of the many valuable roles that insects play in sustaining nature and human life, and it will stimulate debate on the expansion of the use of insects as food and feed.

New Aspects of Meat Quality From Genes to Ethics Woodhead Publishing

Incorporating research chapters from academic authors around the world, this book focuses on the most recent scientific advances in understanding phytate; both IP6 and its esters. It examines phytate degradation patterns in the gastrointestinal tract, and investigates the relevance of gut microbiome and endogenous phosphatases on phytate breakdown, as well as regulation and functions of inositol diphosphates IP3, IP4, and IP7, IP8. It also identifies recommendations for formulating for minerals and amino acids in the presence of phytate, including the effects of phytase on protein bioavailability, and the impact of digestible Ca and P in both swine and poultry. This leading science and research is coupled with real-world pragmatism, including a focus on what industry stakeholders are currently doing to counter dietary phytate, and an overview of the role of nutrition in respect of bone health, meat quality, welfare, and antibiotic free production. As such, the content is relevant for scientists, nutritionists and producers alike.

Aflatoxins are a group of highly toxic and carcinogenic substances, which occur naturally, and can be found in food substances. Aflatoxins are secondary metabolites of certain strains of the fungi *Aspergillus flavus* and *A. parasiticus* and the less common *A. nomius*. Aflatoxins B1, B2, G1, and G2 are the most important members, which can be categorized into two groups according to the chemical structure. As a result of the adverse health effects of mycotoxins, their levels have been strictly regulated especially in food and feed samples. Therefore, their accurate identification and determination remain a Herculean task due to their presence in complex food matrices. The great public concern and the strict legislation incited the development of reliable, specific, selective, and sensitive analytical methods for pesticide monitoring that are discussed in this book.

This book discusses the role of probiotics and prebiotics in maintaining the health status of a broad range of animal groups used for food production. It also highlights the use of beneficial microorganisms as protective agents in animal derived foods. The book provides essential information on the characterization and definition of probiotics on the basis of recently released guidelines and reflecting the latest trends in bacterial taxonomy. Last but not least, it discusses the concept of "dead" probiotics and their benefits to animal health in detail. The book will benefit all professors, students, researchers and practitioners in academia and industry whose work involves biotechnology, veterinary sciences or food production.

Feed and fertilizer are significant costs in aquaculture operations and play an important role in the successful production of fish and other seafood for human consumption. This book reviews the key properties of feeds, advances in feed formulation and ingredient choices and the practicalities of feeding systems and strategies. Feed and Feeding Practices in Aquaculture provides an authoritative and comprehensive coverage of the topic and is an essential guide for nutritionists, farm owners and technicians in aquaculture, as well as those working in R&D in the feed production industry and academics/postgraduate students with an interest in the area. Reviews the key properties of aquafeed, advances in feed formulation and manufacturing techniques, and the practicalities of feeding systems and strategies Provides an overview of feed and fertilizer in aquaculture Covers feeding strategies and related issues in different areas of aquaculture Solutions to sustainably feeding the world must include reducing food waste, as one-third of food produced for humans is never eaten but lost, along with all of the resources consumed in producing and transporting that food. This book examines food loss and waste from farm to table, quantifying where and how much wastage occurs across the U.S. supply chain and the global implications of the problem. Leading experts from academia, government, industry, and NGOs discuss a wide range of issues including food loss in the industrial sector and how it is handled, characteristics of wasted food in restaurants and at homes, food recovery opportunities at various sectors of the supply chain, how food waste can be measured, what interventions are most effective, and how food marketing affects consumption and waste. This is a sourcebook for educators teaching in or outside of classrooms, for researchers endeavoring to gain insights from solid scientific data and analyses, and for a multitude of other food system stakeholders (e.g. sustainability officers, environmental advocates, hunger relief personnel, policy makers, and forward-thinking consumers etc.) seeking to advance constructive dialogue and policies for food waste reduction amid the larger context of global food security and sustainability. Aquaculture, Resource Use, and the Environment places aquaculture within the larger context of global population growth, increased demand for sustainable, reliable sources of food, and the responsible use of natural resources. Aquaculture production has grown rapidly in recent decades as over-exploitation and environmental degradation have drastically reduced wild fish stocks. As fish production has increased, questions have persisted about the environmental sustainability of current aquaculture practices. Aquaculture, Resource Use, and the Environment is a timely synthesis and analysis of critical issues facing the continued growth and acceptance of aquaculture practices and products. Chapters look at the past, present, and future demands for food, aquaculture production, and tackle key issues ranging from environmental impacts of aquaculture to practical best management practices in aquaculture production. Providing broad coverage of issues that are essential to the continued development of aquaculture production, Aquaculture, Resource Use, and the Environment will be vital resource for anyone involved in the field of aquaculture.

Poultry and pig nutrition: challenges of the 21st century focuses on the important challenges animal production faces in the light of increasing global feed scarcity, climate change and improvements in animal welfare. Animal nutrition plays a critical role in providing answers to these 21st century challenges. Internationally leading authorities in nutrition and nutrition-related disciplines provide their views and solutions. New research areas are discussed and the current gaps in our knowledge are identified. Among the topics discussed are the use of microbes for natural solutions, the importance of individual feed intake determination, technological treatments of feed ingredients, and advances in modelling. In addition, authors provide their insights on the effects of environment/housing on animal functioning and the impact of climate change on the mycotoxin content of feed ingredients as well as the importance of pro- and antioxidant balance in animals. The increasing global demand for feed will increase the search for alternative feed ingredients especially new protein sources while for an environmentally sustainable human diet, life cycle assessment needs to be combined with other modelling techniques that address environmental impacts of dietary choices at the (inter)national level. Future challenges require new solutions and innovations, and this book contains a collection of ideas for our 21st century challenges.

Takes the reader on a journey over the centuries, describing the slow and arduous development of Australian food technology and science from before European settlement to the latter half of the twentieth century.

The challenges to humanity posed by the digital future, the first detailed examination of the unprecedented form of power called "surveillance capitalism," and the quest by powerful corporations to predict and control our behavior. In this masterwork of original thinking and research, Shoshana Zuboff provides startling insights into the phenomenon that she has named surveillance capitalism. The stakes could not be higher: a global architecture of behavior modification threatens human nature in the twenty-first century just as industrial capitalism disfigured the natural world in the twentieth. Zuboff vividly brings to life the consequences as surveillance capitalism advances from Silicon Valley into every economic sector. Vast wealth and power are accumulated in ominous new "behavioral futures markets," where predictions about our behavior are bought and sold, and the production of goods and services is subordinated to a new "means of behavioral modification." The threat has shifted from a totalitarian Big Brother state to a ubiquitous digital architecture: a "Big Other" operating in the interests of surveillance capital. Here is the crucible of an unprecedented form of power marked by extreme concentrations of knowledge and free from democratic oversight. Zuboff's comprehensive and moving analysis lays bare the threats to twenty-first century society: a controlled "hive" of total connection that seduces with promises of total certainty for maximum profit -- at the expense of democracy, freedom, and our human future. With little resistance from law or society, surveillance capitalism is on the verge of dominating the social order and shaping the digital future -- if we let it.

This open access book, written by world experts in aquaponics and related technologies, provides the authoritative and comprehensive overview of the key aquaculture and hydroponic and other integrated systems, socio-economic and environmental aspects. Aquaponic systems, which combine aquaculture and vegetable food production offer alternative technology solutions for a world that is increasingly under stress through population growth, urbanisation, water shortages, land and soil degradation, environmental pollution, world hunger and climate change.

This Intergovernmental Panel on Climate Change Special Report (IPCC-SRREN) assesses the potential role of renewable energy in the mitigation of climate change. It covers the six most important

renewable energy sources - bioenergy, solar, geothermal, hydropower, ocean and wind energy - as well as their integration into present and future energy systems. It considers the environmental and social consequences associated with the deployment of these technologies and presents strategies to overcome technical as well as non-technical obstacles to their application and diffusion. SRREN brings a broad spectrum of technology-specific experts together with scientists studying energy systems as a whole. Prepared following strict IPCC procedures, it presents an impartial assessment of the current state of knowledge: it is policy relevant but not policy prescriptive. SRREN is an invaluable assessment of the potential role of renewable energy for the mitigation of climate change for policymakers, the private sector and academic researchers.

The main body of the document deals with the nutritional composition and usage of major feed ingredient sources in compound aquafeeds, as well as the use of fertilizers and manures in aquaculture operations.

Addresses key issues in understanding the decade 2008-2018 and its impact on the societies of the future. Brings together the articles B28of twenty-two prestigious international experts in different fields of thought. Through an informative approach, the essays form a transversal view of today's thinking. This is the tenth title of the Open Mind essay collection published by BBVA.A27.0We are living through years of great importance, marked by the unstoppable evolution of technology, science and the information society. This book brings together twenty-two essays written by prestigious researchers from the world's leading universities on areas as diverse as crucial to our future: climate change, artificial intelligence, economics, cyber-security and geopolitics, democracy, anthropology, new media, astrophysics and cosmology, nanotechnology, biomedicine, globalisation, gender theory and the cities of the future.

Around 60 billion animals are bred for food each year worldwide and more than a billion are transported, often over long distances, every week. However, awareness and understanding of animal welfare, the factors that affect it and the correlation between it and other issues such as food safety and quality are increasing. Long distance transport can cause both physical and mental problems in animals and promoting animal welfare will be beneficial to both the animals and the agricultural and processing industries. In conjunction with a global coalition of NGOs working on animal transport and welfare, this volume brings together studies from well known animal scientists and researchers to review the implications and necessity of long distance animal transport for slaughter. Authoritative reports on regional practices are combined with discussions of the science, economics, legislation and procedures involved in this practice. This review will be essential for researchers and professionals within animal production and welfare as well as veterinary science.

Alternative protein sources are urgently required as the available land area is not sufficient to satisfy the growing demand for meat. Insects have a high potential of becoming a new sector in the food and feed industry, mainly because of the many environmental benefits when compared to meat production. This will be outlined in the book, as well as the whole process from rearing to marketing. The rearing involves large scale and small scale production, facility design, the management of diseases, and how to assure that the insects will be of high quality (genetics). The nutrient content of insects will be discussed and how this is influenced by life stage, diet, the environment and processing. Technological processing requires decontamination, preservation, and ensuring microbial safety. The prevention of health risks (e.g. allergies) will be discussed as well as labelling, certification and legislative frameworks. Additional issues are: insect welfare, the creation of an enabling environment, how to deal with consumers, gastronomy and marketing strategies. Examples of production systems will be given both from the tropics (palm weevils, grasshoppers, crickets) and from temperate zones (black soldier flies and house flies as feed and mealworms and crickets as food).

This series contains the decisions of the Court in both the English and French texts.

Seaweed Sustainability: Food and Non-Food Applications is the only evidence-based resource that offers an abundance of information on the applications of seaweed as a solution to meet an increasing global demand for sustainable food source. The book uncovers seaweed potential and describes the various sources of seaweed, the role of seaweeds as a sustainable source for human food and animal feeds, and the role of seaweed farming for sustainability. In addition to harvesting and processing information, the book discusses the benefits of seaweed in human nutrition and its nutraceutical properties. Offers different perspectives by presenting examples of commercial utilization of wild-harvested or cultivated algae, marine and freshwater seaweeds Discusses seasonal and cultivar variations in seaweeds for a better understanding of their implications in commercial applications Includes a wide range of micro and macro algae for food and feed production and provides perspectives on seaweed as a potential energy source

A clear illustration of the important role of aquaculture in supporting food security, livelihoods, and economic development around the world This new edition of Aquaculture: Farming Aquatic Animals and Plants covers important aspects of the culture of fish, shellfish, and algae in freshwater and marine environments. Subject areas covered include principles of aquaculture, water quality, environmental impacts of aquaculture, desert aquaculture, reproduction, life cycles and growth, genetics and stock improvement, nutrition and feed production, diseases, vaccination, post-harvest technology, economics and marketing, and future developments of aquaculture. Separate chapters also cover the culture of algae, carps, salmonids, tilapias, catfish, marine and brackish fishes, soft-shelled turtles, barramundi, marine shrimp, mitten crabs, and other decapod crustaceans, bivalves, gastropods, and ornamental species. This edition also provides greater coverage of aquaculture in China, reflecting the country's importance in the global scene. Providing core scientific and commercially useful information, and written by 35 eminent international authors, this expanded and fully updated Third Edition of Aquaculture is essential reading for all students and professionals studying and working in aquaculture. Fish farmers, hatchery managers, and those in aquaculture support and supply industries, such as feed manufacturing, will find an abundance of commercially useful information within this important and now established book. Describes the multitude of developments that have occurred within the aquaculture field over the last 15 years Includes a major revision of production statistics and trends, discussion of technical developments, and revised and extended coverage provided by broader international authorship Brings together 35 internationally recognized contributors, including a number of new contributors Aquaculture: Farming Aquatic Animals and Plants, Third Edition is a recommended text for students of the subject and a concise reference for those working in or entering into the industry.

Aquafeed Formulation is the only resource that provides summaries with examples and formulation techniques specifically to meet the needs of anyone in the aquaculture industry. As feed is the largest single cost item in aquaculture production, and formulating aquaculture feed requires many combinations of several ingredients and nutrient requirements, this book takes a clear-and-concise approach, providing essential information on formulation and covering relevant available software, feed nutrients, and additives such as enzymes and phytase and conjugated fatty acids, as well as best industry practices to improve aquafeed production. Users will find this to be a one-stop resource for anyone interested or involved in, the global aquaculture industry. Includes the latest software evaluation for calculating protein and amino acid sources, trace minerals, and vitamins for aquaculture diets Provides essential information on formulation, covering feed nutrients and additives such as enzymes and phytase and conjugated fatty acids Presents factors affecting nutrient recommendations for aquaculture diets and nutritional effects on

aquaculture nutrient excretion and water quality Covers a broad range of techniques to understand the nutrient recommendations in the NRC guide

Considering subjects as diverse yet interrelated as the earth's water resources, renewable energy sources, climate change, the demise of natural diversity, overpopulation, and malnutrition, this book collects and accessibly presents the most up-to-date research on subjects of major global concern from twelve leading scientists.

This book provides a detailed roadmap of technical, economic, and institutional actions by the wind industry, the wind research community, and others to optimize wind's potential contribution to a cleaner, more reliable, low-carbon, domestic energy generation portfolio, utilizing U.S. manufacturing and a U.S. workforce. The roadmap is intended to be the beginning of an evolving, collaborative, and necessarily dynamic process. It thus suggests an approach of continual updates at least every two years, informed by its analysis activities. Roadmap actions are identified in nine topical areas, introduced below.

The trade in live and dead animals and animal parts is a significant aspect of the global economy, but economic considerations are inevitably at odds with optimal animal welfare. Providing a snapshot of the current situation, this book discusses the background to modern international trade, welfare, and the environmental, economic and cultural issues. Covering farm, zoo and sport animals as well as the pet industry, the author draws together the competing interests and issues involved. Critically examining the overall ethics of the current situation and future of animal trade, he considers it within the context of food security, climate change, cultural sensitivities and consumer opinion.

New Aspects of Meat Quality: From Genes to Ethics provides a reference source that covers what constitutes meat quality in the minds of consumers, marketers, and producers in the 21st century, using the same scientific authority as texts on traditional meat quality values. Traditional measures in meat quality, such as texture, waterholding, color, flavor/aroma, safety/microbiology, and processing characteristics are still important, however, additional quality attributes now have huge importance in the purchasing intentions of consumers in many countries. These include, amongst others, animal welfare, the impacts of meat on human health, quality assurance schemes, organic/free range, ethical meat production, and the desirability of genetically modified organisms. The book is divided into three main sections, with the first section covering the developments in our understanding of how muscle structure affects the eating qualities of cooked meat. The second section highlights recently developed techniques for measuring, predicting, and producing meat quality, and how these new techniques help us minimize variability in eating quality and/or maximize value. The final section identifies the current qualities of consumer and public perceptions, and what is sustainable, ethical, desirable, and healthy in meat production and consumption. Brings together top researchers in the field to provide a comprehensive overview of the new elements of meat quality Provides a reference source that covers the new aspects of meat quality with the same scientific authority as texts on traditional meat quality values Edited by an extremely well respected expert in the field who is an Associate Editor of the journal *Meat Science* (published by Elsevier), the largest global journal within this area

This document presents a unique and exhaustive review of the state-of-knowledge on the use of probiotics in diverse livestock production systems, and their impact on animal productivity. It focuses specifically on definitions, production, mechanisms of action, applications, effects, safety and potential public health risks of probiotics. In addition the labelling of probiotic products and global regulatory status of probiotics in animal feed is also covered. This publication will inform those that are interested in identifying and designing interventions for increasing animal productivity. It would also give an impetus to the development of new probiotics having consistent long-term effects that could possibly be used in feed in place of antibiotic growth promoters.

This Book of Abstracts is the main publication of the 66th Annual Meeting of the European Federation for Animal Science 2015 in Warsaw, Poland. It contains abstracts of the invited papers and contributed presentations. The meeting addressed subjects relating to science and innovation. Important problems were also discussed during the sessions of EAAP's nine Commissions: Animal Genetics, Animal Nutrition, Animal Management and Health, Animal Physiology, Cattle Production, Sheep and Goat Production, Pig Production, Horse Production and Livestock Farming Systems.

This open access book approaches the anxieties inherent in food consumption and production in Vietnam. The country's rapid and recent economic integration into global agro-food systems and consumer markets spurred a new quality of food safety concerns, health issues and distrust in food distribution networks that have become increasingly obscured. This edited volume further puts the eating body centre stage by following how gendered body norms, food taboos, power structures and social differentiation shape people's ambivalent relations with food. It uncovers Vietnam's trajectories of agricultural modernisation against which consumers and producers manoeuvre amongst food self-sufficiency, security and abundance. Food Anxiety in Globalising Vietnam is explicitly about 'dangerous' food – regarding its materiality and meaning. It provides social science perspectives on anxieties related to food and surrounding discourses that travel between the local and the global, the individual and society and into the body. Therefore, the book's lens of food anxiety matters for social theory and for understanding the embeddedness and discontinuities of food globalizations in Vietnam and beyond. Due to its rich empirical base, methodological approaches and thematic foci, it will appeal to scholars, practitioners and students alike.--

This Brief discusses potential alternative sources for feeds in aquaculture fish diet, and explains that the future of aquaculture's development is dependent on the costs of fishmeal and fish oil. Considering that the increasing costs of traditional feeds constrain this development, research is looking into alternatives, which can ensure adequate nutrition for animals' growth. This work reviews the use of alternative plant, microbial and insect protein sources, evaluating in particular their impact on growth, nutrient digestibility, fillet quality traits and sensorial perception in the most important farmed marine and freshwater fish species. The Brief specifically summarizes the pros and cons of plant oils from oilseeds, which can on the one hand be a sustainable substitute for fish oil, but which are on the other hand less rich in omega-3 long-chain polyunsaturated fatty acids. The feeding might therefore result in an undesired reduced nutritional value of the flesh of farmed fish. The authors also explore the possible use of fishery discards as potential aquaculture feed source. Since the landing of by-catch will with the new Common Fisheries Policy (CFP) become obligatory (instead of simply returning it to the sea, often dead), suitable uses of what must not be used for human consumption can be investigated. The authors give an outlook whether this might become a sensible alternative to improve the management of discards and create more sustainable fisheries. The Brief also addresses the issues of additives to aquafeeds, such as vitamins, minerals, and antioxidants, but also immunostimulants and enzymes. The authors discuss which effects these additives may have on fish growth, welfare, reproduction and health status in aquacultures.

Introduction to Business covers the scope and sequence of most introductory business courses. The book provides detailed explanations in the context of core themes such as customer satisfaction, ethics,

entrepreneurship, global business, and managing change. Introduction to Business includes hundreds of current business examples from a range of industries and geographic locations, which feature a variety of individuals. The outcome is a balanced approach to the theory and application of business concepts, with attention to the knowledge and skills necessary for student success in this course and beyond.

This book presents a 360-degree picture of the world of insects and explores how their existence affects our lives: the "good, bad, and ugly" aspects of their interactions with humankind. It provides a lucid introductory text for beginning undergraduate students in the life sciences, particularly those pursuing beginner courses in entomology, agriculture, and botany.

The evolution of advanced information environments is rapidly creating a new category of possible cyberaggression, which RAND researchers are calling virtual societal warfare in an analysis of the characteristics and future of this growing threat.

Since 1944, the National Research Council (NRC) has published seven editions of the Nutrient Requirements of Beef Cattle. This reference has guided nutritionists and other professionals in academia and the cattle and feed industries in developing and implementing nutritional and feeding programs for beef cattle. The cattle industry has undergone considerable changes since the seventh revised edition was published in 2000 and some of the requirements and recommendations set forth at that time are no longer relevant or appropriate. The eighth revised edition of the Nutrient Requirements of Beef Cattle builds on the previous editions. A great deal of new research has been published during the past 14 years and there is a large amount of new information for many nutrients. In addition to a thorough and current evaluation of the literature on the energy and nutrient requirements of beef in all stages of life, this volume includes new information about phosphorus and sulfur contents; a review of nutritional and feeding strategies to minimize nutrient losses in manure and reduce greenhouse gas production; a discussion of the effect of feeding on the nutritional quality and food safety of beef; new information about nutrient metabolism and utilization; new information on feed additives that alter rumen metabolism and postabsorptive metabolism; and future areas of needed research. The tables of feed ingredient composition are significantly updated. Nutrient Requirements of Beef Cattle represents a comprehensive review of the most recent information available on beef cattle nutrition and ingredient composition that will allow efficient, profitable, and environmentally conscious beef production.

Over the last two decades global production of soybean and palm oil seeds have increased enormously. Because these tropically rainfed crops are used for food, cooking, animal feed, and biofuels, they have entered the agriculture, food, and energy chains of most nations despite their actual growth being increasingly concentrated in Southeast Asia and South America. The planting of these crops is controversial because they are sown on formerly forested lands, rely on large farmers and agribusiness rather than smallholders for their development, and supply export markets. The contrasts with the famed Green Revolution in rice and wheat of the 1960s through the 1980s are stark, as those irrigated crops were primarily grown by smallholders, depended upon public subsidies for cultivation, and served largely domestic sectors. The overall aim of the book is to provide a broad synthesis of the major supply and demand drivers of the rapid expansion of oil crops in the tropics; its economic, social, and environmental impacts; and the future outlook to 2050. After introducing the dramatic surge in oil crops, chapters provide a comparative perspective from different producing regions for two of the world's most important crops, oil palm and soybeans in the tropics. The following chapters examine the drivers of demand of vegetable oils for food, animal feed, and biodiesel and introduce the reader to price formation in vegetable oil markets and the role of trade in linking consumers across the world to distant producers in a handful of exporting countries. The remaining chapters review evidence on the economic, social, and environmental impacts of the oil crop revolution in the tropics. While both economic benefits and social and environmental costs have been huge, the outlook is for reduced trade-offs and more sustainable outcomes as the oil crop revolution slows and the global, national, and local communities converge on ways to better managed land use changes and land rights.

This Book of Abstracts is the main publication of the 71st Annual Meeting of the European Federation of Animal Science (EAAP). It contains abstracts of the invited papers and contributed presentations of the sessions of EAAP's eleven Commissions: Animal Genetics, Animal Nutrition, Animal Management and Health, Animal Physiology, Cattle Production, Sheep and Goat Production, Pig Production, Horse Production and Livestock Farming Systems, Insects and Precision Livestock Farming.

Chamine exposes how your mind is sabotaging you and keeping you from achieving your true potential. He shows you how to take concrete steps to unleash the vast, untapped powers of your mind.

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