

Scientific Farm Animal Production 10th Edition

George Orwell's celebrated novella, *Animal Farm*, is a biting, allegorical, political satire on totalitarianism in general and Stalinism in particular. One of the most famous works in modern English literature, it is a telling comment on Soviet Russia under Stalin's brutal dictatorship based on a cult of personality which was enforced through a reign of terror. The book tells a seemingly simple story of farm animals who rebel against their master in the hope of stopping their exploitation at the hand of humans and creating a society where animals would be equal, free and happy. Ultimately, however, the rebellion is betrayed and the farm ends up in a state as bad as it was before. The novel thus demonstrates how easily good intentions can be subverted into tyranny. Orwell has himself said that it was the first book in which he had tried, with full consciousness of what he was doing, 'to fuse political purpose and artistic purpose into one whole.' The book was first published in England in 1945, and has since then remained a favourite with readers all over the world, and has consistently been included in all prestigious bestseller lists for the past many years.

Introduction to Animal Science, is one in a series of Just The Facts (JTF) textbooks created by the National Agricultural Institute for secondary and postsecondary programs in agriculture, food and natural resources (AFNR). This is a bold, new approach to textbooks. The textbook presents the essential knowledge of introductory animal science in outline format. This essential knowledge is supported by a main concept, learning objectives and key terms at the beginning of each section references and a short assessment at the end of each section. Content of the book is further enhanced for student learning by connecting with complementary PowerPoint presentations and websites through QR codes (scanned by smart phones or tablets) or URLs. The textbook is available in print and electronic formats. Based on the feedback from the first edition, our second edition has been revised. Minor errors and broken links were corrected as well as the addition of more illustrations to create a more effective teaching tool.

For freshman-level courses in Introductory Animal Science. This highly acclaimed, best-selling introduction to animal science explores the depth and breadth of both the livestock and poultry industries. It provides a sound overview of the biological principles of animal science (e.g. reproduction, genetics, nutrition, consumer products, etc.), and offers comprehensive coverage of the practical areas of breeding, feeding, and management of major farm animal species.

The Tigris and Euphrates rivers run through the heart of the Middle East and merge in the area of Mesopotamia known as the "cradle of civilization." In their long and volatile political history, the sixteenth century ushered in a rare era of stability and integration. A series of military campaigns between the Mediterranean Sea and the Persian Gulf brought the entirety of their flow under the institutional control of the Ottoman Empire, then at the peak of its power and wealth. *Rivers of the Sultan* tells the history of the Tigris and Euphrates during the early modern period. Under the leadership of Sultan Süleyman I, the rivers became Ottoman from mountain to ocean, managed by a political elite that pledged allegiance to a single household, professed a common religion, spoke a lingua franca, and received orders from a central administration based in Istanbul. Faisal Husain details how Ottoman unification institutionalized cooperation

among the rivers' dominant users and improved the exploitation of their waters for navigation and food production. Istanbul harnessed the energy and resources of the rivers for its security and economic needs through a complex network of forts, canals, bridges, and shipyards. Above all, the imperial approach to river management rebalanced the natural resource disparity within the Tigris-Euphrates basin. Istanbul regularly organized shipments of grain, metal, and timber from upstream areas of surplus in Anatolia to downstream areas of need in Iraq. Through this policy of natural resource redistribution, the Ottoman Empire strengthened its presence in the eastern borderland region with the Safavid Empire and fended off challenges to its authority. Placing these world historic bodies of water at its center, *Rivers of the Sultan* reveals intimate bonds between state and society, metropole and periphery, and nature and culture in the early modern world.

Building on the successful structure of the first edition, the second edition of *Reproductive Technologies in Farm Animals* has been totally updated and revised to provide an up to date account of the key techniques employed in manipulating reproduction in farm animals, including beef and dairy cattle, pigs, sheep, goats, buffaloes, camelids, horses and poultry. A classic introductory text to the subject, the book is based on a comprehensive review of the current literature. This text remains key reading for students in animal science, agriculture, veterinary medicine and biology, and veterinary practitioners and farmers who wish to keep updated on developments in techniques that may be useful in their daily practice.

High producing farm animals are permanently challenged by a variety of factors: lack of proper nutrition (deficit/surplus), housing systems, infections and stress. The incidence, course and outcome of production diseases are changing continuously. Therefore new information on prevention, diagnosis and treatment of production diseases is needed. These problems are complicated by the discussion of animal welfare, the rapid changes in agricultural production and the economics of production. The following key topics are handled: Fatty liver in dairy cows Alternatives to growth-promoting antibiotics Chronic inflammation and animal production Animal behavior and welfare in intensive production systems Epidemiology of production diseases New techniques in immunoprophylaxis Nutrition-immunology and production-immunology relationships Phosphorus nutrition: animal health and environmental concerns Application of genomics to production disease Role of specific fatty acids in animal health, reproduction, and performance Trace mineral nutrition and metabolism Subclinical rumen acidosis

Animals are biological transformers of dietary matter and energy to produce high-quality foods and wools for human consumption and use. Mammals, birds, fish, and shrimp require nutrients to survive, grow, develop, and reproduce. As an interesting, dynamic, and challenging discipline in biological sciences, animal nutrition spans an immense range from chemistry, biochemistry, anatomy and physiology to reproduction, immunology, pathology, and cell biology. Thus, nutrition is a foundational subject in livestock, poultry and fish production, as well as the rearing and health of companion animals. This book entitled *Principles of Animal Nutrition* consists of 13 chapters. Recent advances in biochemistry, physiology and anatomy provide the foundation to understand how nutrients are utilized by ruminants and non-ruminants. The text begins with an overview of the physiological and biochemical bases of animal nutrition,

followed by a detailed description of chemical properties of carbohydrates, lipids, protein, and amino acids. It advances to the coverage of the digestion, absorption, transport, and metabolism of macronutrients, energy, vitamins, and minerals in animals. To integrate the basic knowledge of nutrition with practical animal feeding, the book continues with discussion on nutritional requirements of animals for maintenance and production, as well as the regulation of food intake by animals. Finally, the book closes with feed additives, including those used to enhance animal growth and survival, improve feed efficiency for protein production, and replace feed antibiotics. While the classical and modern concepts of animal nutrition are emphasized throughout the book, every effort has been made to include the most recent progress in this ever-expanding field, so that readers in various biological disciplines can integrate biochemistry and physiology with nutrition, health, and disease in mammals, birds, and other animal species (e.g., fish and shrimp). All chapters clearly provide the essential literature related to the principles of animal nutrition, which should be useful for academic researchers, practitioners, beginners, and government policy makers. This book is an excellent reference for professionals and a comprehensive textbook for senior undergraduate and graduate students in animal science, biochemistry, biomedicine, biology, food science, nutrition, veterinary medicine, and related fields.

Authored by renowned animal scientist Robert Blair, who has a peerless reputation in organic livestock nutrition, *A Practical Guide to the Feeding of Organic Farm Animals* aims to translate the science of feeding organic livestock and distill it into practical guidance for farmers and producers. The latest research is broken down into a practical approach to on-the-farm feeding, providing applied methodology backed up by scientific research. There is also advice on making the transition from conventional to organic farming systems regarding feeding. Sections cover poultry, pigs, cattle, sheep, and goats, including topics such as: the nutritional requirements of each species, identifying suitable ingredients and feeds, overviewing husbandry techniques and system approaches, providing advice on selecting suitable breeds, and advising on nutrition and its relationship to health with a preventative approach. The final section provides advice on organic nutritional regimes under integrated farming operations. This book is an ideal resource for the smallholder farmer, as well as traditional and aspiring organic livestock farmers. [Subject: Farm Life, Organic Farming, Animal Husbandry]

Laboratory Animal Welfare provides a comprehensive, up-to-date look into the new science of animal welfare within laboratory research. Animals specifically considered include rodents, cats and dogs, nonhuman primates, agricultural animals, avian animals and aquatic animals. The book examines the impact of experiment design and environment on animal welfare, as well as emergency situations and euthanasia practices. Readers will benefit from a review of regulations and policy guidelines concerning lab animal use, as well as information on assessing animal welfare. With discussions of the history and ethics of animals in research, and a debate on contemporary and international issues, this book is a go-to resource for laboratory animal welfare.

This book contains 34 chapters on nutrition physiology and presents scientific research in modelling nutrient digestion and utilization in domestic animals, including cattle, sheep, pigs, poultry and fishes. It is divided into 6 parts that

cover fermentation, absorption and passage; growth and development; mineral metabolism; methodology and model development; environmental impacts and animal production and feed evaluation models. Deterministic, stochastic, empirical and mechanistic modelling approaches are also described. This book will be of significant interest to researchers and students of animal science, especially those concerned with nutrition modelling.

It is vital to understand the recent perceptions in animal welfare and its implications in changing global scenarios. The introductory chapter to Animal Welfare provides concise details of the application of emerging these scenarios. The book is self-contained with everything needed to understand the importance of animal welfare and its perspectives. This is the first edition of the book so it covers the introductory level of topics, which are written specifically for veterinary students, classroom use, and practitioners who require more knowledge of animal welfare. The book contains sections on global perspectives, animal health and welfare, and husbandry and welfare. Each section comprises chapters from renowned experts in each area and gives readers a unique opportunity to explore the topic.

Introduction to Biology, is one in a series of Just The Facts (JTF) textbooks created by the National Agricultural Institute for secondary and postsecondary programs in biology, agriculture, food and natural resources (AFNR). This is a bold, new approach to textbooks. The textbook presents the essential knowledge of introductory biology in outline format. This essential knowledge is supported by a main concept, learning objectives and key terms at the beginning of each section references and a short assessment at the end of each section. Content of the book is further enhanced for student learning by connecting with complementary PowerPoint presentations and websites through QR codes (scanned by smart phones or tablets) or URLs. The textbook is available in print and electronic formats. To purchase electronic copies, inquire at: info@national-ag-institute.org

Animal Welfare Science, Husbandry and Ethics charts the history of our understanding of farm animal welfare, throughout time—the human use of animals in different eras, and farming in different systems. The book examines the human/non-human animal relationship with a philosophical approach, examining the connections and disconnections between animals and people, and charts the beliefs and motives of different philosophers, theories, and movements in animal welfare. The book also looks at our current animal welfare systems, the pathway to how we got here, and future considerations for achieving a sustainable animal welfare model. Intended for animal welfare students, teachers, researchers and academic libraries, this book introduces a complex subject requiring an understanding of the underlying factors and drivers of human behaviour and farming systems.

Scientific Farm Animal Production An Introduction to Animal Science

Recent Advances in Animal Nutrition: 1991 is an annual review of the changes

and updates in the field of animal nutrition, especially progresses in the study of feeds. The book is divided into five parts. Part I discusses topics related to pig nutrition and feeds such as energy-protein interactions and improved utilization of amino acids. Part II covers the nutrition and growth of poultry. Part III talks about the legislations concerned with feed manufacture, and Part IV deals with nutrition of different animals such as chicks and ruminants. The text is recommended for agriculturists, zoologists, and those involved in the development and manufacture of feeds who would like to know more about the nutrition of agriculturally important animals.

Issues in Animal Science and Research / 2013 Edition is a ScholarlyEditions™ book that delivers timely, authoritative, and comprehensive information about Rabbit Science. The editors have built Issues in Animal Science and Research: 2013 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Rabbit Science in this book to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Issues in Animal Science and Research: 2013 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at <http://www.ScholarlyEditions.com/>.

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.

Introduction to Animal Science: Global, Biological, Social, and Industry Perspectives, Fifth Edition, features the most comprehensive, up-to-date coverage of the traditional disciplines that are so essential to a solid foundation in Animal Science: nutrition, digestion, feeds, genetics, reproduction, disease, and animal behavior. The text's comprehensive, non-traditional approach introduces the discipline as an ever-changing, integral part of every aspect of human existence. Author W. Stephen Damron not only presents thorough coverage of the major species and their respective concerns, he challenges you to consider the many pressing interests relevant to Animal Science as it influences and is influenced by society today.

After the experience of the first volume, The World Association for Animal

Production (WAAP) continues the publication of the Book of the Year series for the benefit of animal scientists and policy makers in the field of livestock systems. The WAAP asked the best known and significant animal scientists in the world to contribute to the preparation of this book. Following the success of the first volume of the series, the WAAP Book of the Year 2003, many authors from the six continents are contributing to this 2nd volume. The importance of this publication is to have already established a worldwide reference for the animal science and production sectors. There are the usual four sections that raised much interest in the previous volume of the series. The first section has six articles, describing the changing conditions of livestock systems in each of the six continents. The second section has more than twenty papers, describing the development of the many sectors in which the animal science field has been divided. The third section, dealing with contemporary issues, is declared by our readers to be the most interesting. It allows participating authors to describe current and significant issues important in these last years for the animal science and production sectors. The statistics produced in the previous volume are updated and enhanced with new figures in this book to form the fourth section. The papers included in this book speak clearly of the development in the last twelve months in the livestock systems worldwide. Major space is also devoted to the list of references from where every author can start to deepen his knowledge. This book is essential for libraries that want their readers to be easily updated. Also scientists, policy makers and scientific writers, who need, to enhance their competence, to have the most practical way of knowing what is going on in the world in the field of livestock science and production will find this book of great value.

This book presents specially commissioned reviews of key topics in farm animal metabolism and nutrition, such as repartitioning agents, near infrared reflectance spectroscopy and digestibility and metabolisable energy assays, where major advances have recently been made or which continue to represent issues of significance for students and researchers. Authors include leading researchers from Europe, North America and Australia.

For nearly a century, scientific advances have fueled progress in U.S. agriculture to enable American producers to deliver safe and abundant food domestically and provide a trade surplus in bulk and high-value agricultural commodities and foods. Today, the U.S. food and agricultural enterprise faces formidable challenges that will test its long-term sustainability, competitiveness, and resilience. On its current path, future productivity in the U.S. agricultural system is likely to come with trade-offs. The success of agriculture is tied to natural systems, and these systems are showing signs of stress, even more so with the change in climate. More than a third of the food produced is unconsumed, an unacceptable loss of food and nutrients at a time of heightened global food demand. Increased food animal production to meet greater demand will generate more greenhouse gas emissions and excess animal waste. The U.S. food supply

is generally secure, but is not immune to the costly and deadly shocks of continuing outbreaks of food-borne illness or to the constant threat of pests and pathogens to crops, livestock, and poultry. U.S. farmers and producers are at the front lines and will need more tools to manage the pressures they face. Science Breakthroughs to Advance Food and Agricultural Research by 2030 identifies innovative, emerging scientific advances for making the U.S. food and agricultural system more efficient, resilient, and sustainable. This report explores the availability of relatively new scientific developments across all disciplines that could accelerate progress toward these goals. It identifies the most promising scientific breakthroughs that could have the greatest positive impact on food and agriculture, and that are possible to achieve in the next decade (by 2030).

Aims and principles of organic pig production -- Elements of pig nutrition --

Approved ingredients for organic diets -- Diets for organic pig production --

Choosing the right breed and strain of pig -- Integrating feeding programs into organic production systems

This multicultural and interdisciplinary reference brings a fresh social and cultural perspective to the global history of food, foodstuffs, and cultural exchange from the age of discovery to contemporary times. Comprehensive in scope, this two-volume encyclopedia covers agriculture and industry, food preparation and regional cuisines, science and technology, nutrition and health, and trade and commerce, as well as key contemporary issues such as famine relief, farm subsidies, food safety, and the organic movement. Articles also include specific foodstuffs such as chocolate, potatoes, and tomatoes; topics such as Mediterranean diet and the Spice Route; and pivotal figures such as Marco Polo, Columbus, and Catherine de' Medici. Special features include: dozens of recipes representing different historic periods and cuisines of the world; listing of herbal foods and uses; and a chronology of key events/people in food history.

The Voluntary Food Intake of Farm Animals offers a wide discussion on food intake among farm animals. The book presents various studies, facts, details, and theories that are relevant to the subject. The first chapter begins by explaining the basic definition and significance of voluntary food intake. This topic is followed by discussions on meal patterns, the main features of eating, and the similarities between species. The next chapter explores theories about the food intake control, which are divided into two types: single-factor theories and multiple-factor theories. In Chapter 3, the discussion is on the food's pathway, including elaborations on the various receptors. Chapter 4 considers the central nervous system's involvement in the voluntary food intake and the energy balance regulation. The next couple of chapters highlight the possible reasons that affect food intake; among them are pregnancy, fattening, physical growths, and the environment. In the book's remaining chapters, the discussion revolves around grass intake and the prediction and manipulation of voluntary food intake. The book serves as a valuable reference for undergraduates and postgraduates of biology and its related fields.

Addressing principles associated with breeding animals for enhanced health and resistance to specific diseases, this book provides a review of the field illustrated with examples covering many diseases of importance to livestock production, across all major livestock species. Authored by experts in the field, this updated edition covers techniques and approaches, viruses, TSEs, bacteria, parasites, vectors, and broader health issues seen in production systems, including metabolic diseases. The book will be an essential reference for professionals in the field, scientists and researchers, students, breeders, veterinarians, agricultural advisors and policy makers. PRINT/ONLINE PRICING OPTIONS AVAILABLE UPON REQUEST AT e-reference@taylorandfrancis.com

PRINT/ONLINE PRICING OPTIONS AVAILABLE UPON REQUEST AT e-reference@taylorandfrancis.com Containing case studies that complement material presented in the text, the vast range of this definitive Encyclopedia encompasses animal physiology, animal growth and development, animal behavior, animal reproduction and breeding, alternative approaches to animal maintenance, meat science and muscle biology, farmed animal welfare and bioethics, and food safety. With contributions from top researchers in their discipline, the book addresses new research and advancements in this burgeoning field and provides quick and reader-friendly descriptions of technologies critical to professionals in animal and food science, food production and processing, livestock management, and nutrition.

Animal Science Reviews 2010 provides scientists and students in animal science with timely analysis on key topics in current research. Originally published online in CAB Reviews, this volume makes available in printed form the reviews in animal science published during 2010.

These proceedings present the latest achievements and developments within the scientific community of fur animal research organised by the International Fur Animal Scientific Association (IFASA). The book contains papers on the following topics: nutrition, feeding and management, health and disease, breeding, genetics and reproduction, behaviour and welfare and a theme on 'WelFur for mink and foxes'. The scientific results presented do not only come from traditional mink producing countries, but also from countries with more recent developments in fur animal production. The scientific community in the field of fur animal production is small, but the biologic diversity and thus the need for scientifically based knowledge in this area is similar to, or often exceeds, that of other farm animals. In this book, the most diverse and recent advancements in fur animal production were brought together in order to provide a clear overview for all those involved in the fur animal industry.

This edition is expanded to include more on animal welfare, sustainability and production systems in low and middle income countries, including smallholder production systems. - Has undergone a thorough review of all the existing chapters, with new content on the future role of cattle. - Contains quality colour illustrations, so that key information can be found at a glance. - Is beautifully written with many examples and pointers for further information. - Tackles key issues of sustainability and the requirement for increased production.

The use of drugs in food animal production has resulted in benefits throughout the food industry; however, their use has also raised public health safety concerns. The Use of Drugs in Food Animals provides an overview of why and how drugs are used in the

major food-producing animal industries--poultry, dairy, beef, swine, and aquaculture. The volume discusses the prevalence of human pathogens in foods of animal origin. It also addresses the transfer of resistance in animal microbes to human pathogens and the resulting risk of human disease. The committee offers analysis and insight into these areas Monitoring of drug residues. The book provides a brief overview of how the FDA and USDA monitor drug residues in foods of animal origin and describes quality assurance programs initiated by the poultry, dairy, beef, and swine industries. Antibiotic resistance. The committee reports what is known about this controversial problem and its potential effect on human health. The volume also looks at how drug use may be minimized with new approaches in genetics, nutrition, and animal management.

November

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.

Treat the diseases affecting large animals! Veterinary Medicine, 11th Edition provides up-to-date information on the diseases of horses, cattle, sheep, goats, and pigs. Comprehensive coverage includes the principles of clinical examination and making a diagnosis, along with specific therapy recommendations. For easier use, this edition has been divided into two volumes and restructured into a logical, anatomically based approach to disease. From internationally known veterinary experts Peter Constable, Kenneth Hinchcliff, Stanley Done, and Walter Grünberg, this book is the definitive, one-stop reference for farm animal and equine care. Comprehensive coverage includes information essential to any large-animal veterinarian, especially those working with horses, cattle, sheep, goats, or pigs. Coverage of diseases addresses major large-animal diseases of all countries, including foreign animal and emerging diseases. User-friendly format makes it easier to quickly absorb key information. Quick review/synopsis sections make important information on complex diseases easy to find. NEW! Convenient, easy-access format is organized by organ systems, and divides the content into two compact volumes with the same authoritative coverage. Nearly 200 new color photographs and line drawings are included in this edition. NEW full-color design improves navigation, clarifies subject headings, and includes more boxes, tables, and charts for faster reference. New Diseases Primarily Affecting the Reproductive System chapter is added. Updated and expanded chapter on pharmacotherapy lists therapeutic interventions and offers treatment boxes and principles of antibiotic use. Expanded sections on herd health include biosecurity and infection control, and valuable Strength of Evidence boxes. NEW or extensively revised sections include topics such as the Schmallenberg and Bluetongue viral epidemics of ruminants in Europe, Wesselbron disease in cattle, hypokalemia in adult cattle, equine multinodular pulmonary fibrosis, Hendra virus infection, porcine reproductive and respiratory syndrome, torque teno virus, and numerous recently identified congenital and inherited disorders of large animals. Additional content is provided on lameness in cattle and the diseases of cervids.

Putting the Horse before Descartes showcases this passionate animal advocate at his best. In witty, often disarming detail, Rollin describes how he became an outspoken critic of how animals were treated in veterinary and medical schools and research laboratories. He recalls teaching veterinary students about ethical issues and engaging in face-offs with ranchers and cowboys about branding methods and rodeo roping competitions. Rollin also describes his efforts to legally mandate more humane conditions for agricultural and laboratory animals. As public concern about animal welfare and the safety of the food supply heighten, Rollin carries on his work on a global scale—in classrooms, in lecture halls, in legislatures, in meetings of agricultural associations, in industrial settings, and in print. --Book Jacket.

Animal behaviour is the basis for ascertaining their welfare and is a topic of ever growing importance. This undergraduate-level textbook is organised into three sections covering all major farm animals of the world, both mainstream and specialist: large farm animal species (horses, cattle, swine, sheep and goats), poultry and farmed birds and non-domesticated animals such as deer. Each chapter describes the elements of behaviour of a particular species in a clear and uniform format. Background to domestication, innate and learnt behaviour, social behaviour, mating behaviour, activity patterns, senses, behaviour in the young animal, vision and hearing are all covered for each species. Understanding of ethological knowledge is both a necessary aid for getting correct diagnoses, but also for the assessment of health and welfare in the single animal or a group of animals, making the book valuable for veterinary practitioners as well as students at university and tertiary level.

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 book is about resource allocation matters with the aim to further development thoughts and models on resource allocation applied to livestock production. It contains 18 chapters divided into 4 parts which discuss resources and resource allocation patterns, trade-offs, metabolic constraints to resource allocation and the process of homeorhesis with a special emphasis to homeorhesis during heat stress; the relationship between food intake and resources allocated to body maintenance, growth, reproduction and the immune response; the consequences of high production efficiency in pigs, poultry and dairy cattle and the consequences of improved production by means of biological engineering and options to include resource allocation matters in the breeding objective, animal welfare and in resource allocation modelling.

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