

# Physiology Of Growth And Reproduction In Livestock

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Pituitary Adenylate Cyclase-Activating Polypeptide - Hubert Vaudry 2003

Pituitary Adenylate Cyclase-Activating Polypeptide is the first volume to be written on the neuropeptide PACAP. It covers all domains of PACAP from molecular and cellular aspects to physiological activities and promises for new therapeutic strategies. Pituitary Adenylate Cyclase-Activating Polypeptide is the twentieth volume published in the Endocrine Updates book series under the Series Editorship of Shlomo Melmed, MD.

**Physiological Ecology** - William H. Karasov 2007-08-05

Unlocking the puzzle of how animals behave and how they interact with their environments is impossible without understanding the physiological processes that determine their use of food resources. But long overdue is a user-friendly introduction to the subject that systematically bridges the gap between physiology and ecology. Ecologists--for whom such knowledge can help clarify the consequences of global climate change, the biodiversity crisis, and pollution--often find themselves wading through an unwieldy, technically top-heavy literature. Here, William Karasov and Carlos Martínez del Río present the first accessible and authoritative one-volume overview of the physiological and biochemical principles that shape how animals procure energy and nutrients and free themselves of toxins--and how this relates to broader ecological phenomena. After introducing primary concepts, the authors review the chemical ecology of food, and then discuss how animals digest and process food. Their broad view includes symbioses and extends even to ecosystem phenomena such as ecological stoichiometry and toxicant biomagnification. They introduce key methods and illustrate principles with wide-ranging vertebrate and invertebrate examples. Uniquely, they also link the physiological mechanisms of resource use with ecological phenomena such as how and why animals choose what they eat and how they participate in the exchange of energy and materials in their biological communities. Thoroughly up-to-date and pointing the way to future research, *Physiological Ecology* is an essential new source for upper-level undergraduate and graduate students--and an ideal synthesis for professionals. The most accessible introduction to the physiological and biochemical principles that shape how animals use resources Unique in linking the physiological mechanisms of resource use with ecological phenomena An essential resource for upper-level undergraduate and graduate students An ideal overview for researchers

**Environmental Physiology of Livestock** - R. J. Collier 2012-02-07

Environmental stress is one of the most significant factors affecting livestock performance and health, and it is only expected to increase with effects of global warming. *Environmental Physiology of Livestock* brings together the latest research on environmental physiology, summarizing progress in the field and providing directions for future research. Recent developments in estimating heat stress loads are discussed, as well as key studies in metabolism, reproduction, and genetic expressions. *Environmental Physiology of Livestock* begins with a survey of current heat indexing tools, highlighting recent discoveries in animal physiology, changes in productivity levels, and new technologies available to better estimate stress response. Using this synopsis as a point of orientation, later chapters hone in on major effects of heat stress, including changing metabolic pathways and nutrient requirements, endocrine regulation of acclimation to environmental stress, and reduced reproductive performance. The text concludes with a thorough discussion of environmental effects on gene expressions, providing important insight for future breeding practices. *Environmental Physiology of Livestock* is a globally contributed volume and a key resource for animal

science researchers, geneticists, and breeders.

**Factors Affecting Calf Crop** - Michael J. Fields 1993-11-23

*Factors Affecting Calf Crop* summarizes the latest information available from leading cattle physiologists and geneticists regarding factors known to influence the production of live calves at weaning. You get practical information on management techniques for improving reproduction efficiency in the herd. You'll also learn about the functioning of the reproductive system and how this may affect reproductive processes in the cow herd. Managers will benefit from a clearer understanding of the factors known to limit efficient reproduction, while veterinarians and other professionals who advise cattlemen will appreciate the substantial reference material and color photographs for defining cow condition scores. Color photographs are also used to illustrate the discussions of testicular thermographies and their applications. Other chapters in the book cover developments in improving reproductive performance of the replacement heifer, the brood cow, and the bull. Topics on reproduction include physiology/endocrinology, the use of growth promotants, genetics and physiological and economic considerations in selecting the age to breed heifers, heritability of fertility, length of the breeding season, prepartum and postpartum nutrition, nursing by the calf, cloning of embryos, and much more.

**Designing Foods** - National Research Council 1988-02-01

This lively book examines recent trends in animal product consumption and diet; reviews industry efforts, policies, and programs aimed at improving the nutritional attributes of animal products; and offers suggestions for further research. In addition, the volume reviews dietary and health recommendations from major health organizations and notes specific target levels for nutrients.

Ruminant Physiology - Pierre Cronjé 2000

The International Symposium on Ruminant Physiology (ISRP) is the premier forum for presentation and discussion of advances in knowledge of the physiology of ruminant animals. This book brings together edited versions of the keynote review papers presented at the symposium.

**Oocyte Physiology and Development in Domestic Animals** - Rebecca Krisher 2013-02-19

*Oocyte Physiology and Development in Domestic Animals* reviews the most recent advances in the research of physiological and biochemical mechanisms underlying oocyte growth and development, providing readers with the fundamental understanding of these key processes and summarizing this important field of research. The book covers multiple molecular and physiological mechanisms including initiation of oocyte growth during folliculogenesis and in vitro follicle culture to support oocyte competence, that are critical to health and quality. Physiological process ranging from gene expression to metabolism will be covered with an eye toward using these factors to uncover biomarkers that will further advance the field. In addition, the text looks at the effects of in vitro maturation environments on oocyte quality and developmental outcome.

**Reproduction in Domestic Animals** - Harold Harrison Cole 1969

Physiological characterization of gonadotropins. Immunological characterization of the gonadotropins. Chemistry of the gonadotropins. Physiology of gonadal hormones and related synthetic compounds. The biochemistry of gonadal hormones and related compounds. Role of the nervous systems in reproductive processes. Oogenesis and folliculogenesis. The estrous cycle. Spermatogenesis and morphology of the spermatozoon. Physiology of semen and of the male reproductive tract. Physiological aspects of artificial insemination. Fertilization and development of the egg. Implantation, development of the fetus, and fetal

membranes. Hormonal mechanisms during pregnancy and parturition. Mammary growth and location. Environmental factors affecting reproduction. Nutritive influence upon reproduction. Infectious diseases influencing reproduction. Sexual behaviour and controlling mechanisms in domestic birds and mammals. Reproduction in domestic fowl.

**Animal and Plant Productivity** - Robert J. Hudson 2010-02-26

Animal and Plant Productivity theme is a component of Encyclopedia of Food and Agricultural Sciences, Engineering and Technology Resources in the global Encyclopedia of Life Support Systems (EOLSS), which is an integrated compendium of twenty one Encyclopedias. The theme on Animal and Plant Productivity Science focuses on paths to improvement of animal and plant production systems at all levels from genomes to landscapes. This volume traces efforts to improve agricultural productivity and the increasingly important metrics of resilience and sustainability. It deals with the essential aspects and a myriad of issues of great relevance to our world such as Productivity, Efficiency And Resilience of Crop And Livestock Production; Sustainable Animal Production; Animal Production Systems in the Tropics; Physiology of Growth and Reproduction in Livestock; Evolution of Livestock Improvement; Monogastric Nutrition; Rumen Microbiology; Meat Science; Agroecology: environmentally sound and socially just alternatives to the industrial; farming model; Range and pasture productivity; Sustainable Crop Production: Physiology, Biochemistry and Molecular Biology; Crop Improvement("The Gene Revolution"); Ecological Economics; Agricultural Economics; Integrated Resource Management And Planning. This volume is aimed at the following five major target audiences: University and College Students Educators, Professional Practitioners, Research Personnel and Policy Analysts, Managers, and Decision Makers, NGOs and GOs.

**Reproduction in Farm Animals** - Elsayed Saad Eldin Hafez 1993-01-01

Functional anatomy of reproduction; Anatomy of male reproduction; Anatomy of female reproduction; Hormones, growth factors, and reproduction; Reproductive cycles; Folliculogenesis, egg maturation, and ovulation; Transport and survival gametes; Spermatozoa and seminal plasma; Fertilization, cleavage, and implantation; Gestation, prenatal physiology, and parturition; Reproductive behavior; Reproductive failure in females; Reproductive failure in males; Genetics of reproductive failure; Reproductive cycles; Cattle and buffalo; Sheep and goats; Pigs; Horses; Poultry; Techniques for improving reproductive efficiency; Semen evaluation; artificial insemination; X-and Y-chromosome - bearing spermatozoa; Pregnancy diagnosis; Ovulation manipulation, In Vitro fertilization and embryo transfer, and genetic engineering; Preservation and cryopreservation of gametes and embryos.

**Reproductive Biology and Technology in Animals** - 2020-04-15

Reproductive success is a very important objective to ensure the evolution of animal species. In this sense, interesting research has been carried out to clarify various aspects of reproduction in different animal species. In this way, recent advances in the knowledge of reproductive biology and biotechnology developed for both males and females have been key to improving efficiency in different aspects. Thus, advances in the knowledge of sperm handling, oocyte characteristics, different genomic aspects related to somatic cell nuclear transfer, and the reproductive microarchitecture system in sheep, cows, pigs, and other invertebrates such as gastropods and fish are presented in this book. Additionally, we also present the most relevant topics of each area, making a detailed review of the knowledge reported to date.

**Bovine Reproduction** - Richard M. Hopper 2014-08-18

Bovine Reproduction is a comprehensive, current reference providing information on all aspects of reproduction in the bull and cow. Offering fundamental knowledge on evaluating and restoring fertility in the bovine patient, the book also places information in the context of herd health where appropriate for a truly global view of bovine theriogenology. Printed in full color throughout, the book includes 83 chapters and more than 550 images, making it the most exhaustive reference available on this topic. Each section covers anatomy and physiology, breeding management, and reproductive surgery, as well as obstetrics and pregnancy wastage in the cow. Bovine Reproduction is a welcome resource for bovine practitioners, theriogenologists, and animal scientists, as well as veterinary students and residents with an interest in the cow.

**Equine Reproductive Physiology, Breeding and Stud Management, 5th Edition** - Mina C.G. Davies Morel 2020-11-02

Equine Reproductive Physiology Breeding and Stud Management, 5th Edition provides a thorough grounding in equine reproductive anatomy and physiology and applies it to all aspects of breeding and stud management. This includes detailed coverage of the management of mares, stallions and foals, as well as stud management practicalities such as infertility, artificial insemination and advanced reproductive techniques. This textbook, which has been updated throughout with additional material and references, continues to provide an authoritative treatise on equine reproduction for students, practising veterinary surgeons and stud managers.

**The Biology, Physiology and Sociology of Reproduction** - Winfield Scott Hall 2016-01-07

REPRODUCTION FROM THE STANDPOINT OF BIOLOGY. I. GENERAL ACTIVITIES OF LIVING ORGANISMS. The casual observer, even if he watches thoughtfully the various activities of plants and animals, would hardly believe these activities capable of classification into two general classes. He notes the germination of the plant seed and its early growth, step by step approaching a stage of maturity; it blossoms, produces seed, and if it is an annual plant, withers and dies. If it is a perennial plant its leaves only, wither and die at the approach of winter, the plant passing into a resting stage from which it awakes the following spring to repeat again its annual cycle. If he observes an animal he finds that it similarly develops to a stage of maturity, reproduces its kind, withers and dies; but incident to these general activities he notes numerous others that seem to have no relation to the activity of the plant. He sees men tilling the fields, felling the forests, building houses, factories and railroads; he sees them build hospitals, colleges and churches. Is it possible to group all of these activities of plants and animals into two general groups? A more critical view of these activities makes it evident that they are all directed either to the maintenance and protection of the individual, or the maintenance and protection of the race. Those directed towards the maintenance of self are called egoistic activities, while those directed to the maintenance of the race are called phyletic activities.

**Recent updates in molecular Endocrinology and Reproductive Physiology of Fish** - Jitendra Kumar Sundaray 2021-01-27

This book is dedicated to present different aspects of reproductive physiology and molecular endocrinology of commercially important as well as potential aquaculture fish species. The existing aquaculture generation is looking for species diversification for efficient utilization of available diverse water resources. The knowledge of reproductive physiology of fish will help in development of breeding strategy for use in commercial aquaculture. Reproductive system is highly coordinated and governed by means of complex network of nervous, endocrine system and environmental factor as well. This book emphasize on different key aspects of reproductive endocrine system such as basic gonadal biology in the events of climate vulnerability, sex determination, sex reversal, stimulatory hormones, inhibitory hormones and receptors, environmental and chemical factor guiding reproduction, puberty, neuroendocrine regulation of reproduction etc. This book further describes how reproduction is not just indispensable for the existence or survival of an individual, but it is important for the survival of species. Chapters also address the concerns of anthropogenic activities on fish and the aquatic environment lead main trouble on physiological and reproductive processes of aquatic animals. This book offers an attractive compilation of highly relevant aspects of current and future of aquaculture, especially in view of the growing awareness of aquaculture, to food scientists working on commercial fish, animal biologists, fish geneticists etc. This book is very timely, and relevant to the sustainable development goals. The contents would be relevant to policy makers, working towards blue revolution and blue economy.

**Artificial Insemination in Farm Animals** - Milad Manafi 2011

Artificial insemination is used instead of natural mating for reproduction purposes and its chief priority is that the desirable characteristics of a bull or other male livestock animal can be passed on more quickly and to more progeny than if that animal is mated with females in a natural fashion. This book contains under one cover 16 chapters of concise, up-to-date information on artificial insemination in buffalos, ewes, pigs, swine, sheep, goats, pigs and dogs. Cryopreservation effect on sperm quality and fertility, new method and diagnostic test in semen analysis, management factors affecting fertility after cervical insemination, factors of non-infectious nature affecting the fertility, fatty acids effects on reproductive performance of ruminants, particularities of bovine artificial insemination, sperm preparation techniques and reproductive

endocrinology diseases are described. This book will explain the advantages and disadvantages of using AI, the various methodologies used in different species, and how AI can be used to improve reproductive efficiency in farm animals.

Reproduction in Domestic Ruminants VII - M. C. Lucy 2011-02-01

The combined work of eminent scientists in the field, this compilation contains the latest information on ruminant nutrition from the eighth annual International Ruminant Reproduction Symposium. With discussions on how to improve reproduction by applying nutrition and physiology, this collection spotlights the recent advances regarding the ruminant genome and includes chapters about specific animals, including the dairy buffalo, camel, and reindeer.

**Anatomy and Physiology of Domestic Animals** - R. Michael Akers 2013-07-03

Anatomy and physiology are key foundational areas of study for animal science students and professionals. Understanding these guiding principles will provide students with a better understanding of complex make-up of domestic animals and continued success in further study in this field. Anatomy and Physiology of Domestic Animals provides a thorough, systems-based introduction to anatomy and physiology of a wide range of domestic animal species. Each chapter is highly illustrated to provide useful examples of concepts discussed.

Biotechnology of Penaeid Shrimps - A.D. Diwan 2021-02-01

The main objective of this book is to collect comprehensive information on various aspects of physiology and biotechnology focusing mainly on reproduction, growth, disease control and therapeutics of penaeid shrimps. The book covers fundamental aspects and few applied aspects of biotechnology concerning basic genomics and proteomics, reproduction, growth and disease control and therapeutics of shrimp. This information will be quite useful not only to the aqua-farmers/mariculture experts of the shrimp industry to augment quality shrimp production in captive condition but also to the faculties and students working in different organizations involved in teaching and research activities in shrimp biotechnology. Note: T&F does not sell or distribute the Hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka.

*Physiology of Reproduction* - Francis Hugh Adam Marshall 1952

*Current Therapy in Large Animal Theriogenology - E-Book* - Robert S. Youngquist 2006-11-23

An essential resource for both students and practitioners, this comprehensive text provides practical, up-to-date information about normal reproduction and reproductive disorders in horses, cattle, small ruminants, swine, llamas, and other livestock. Featuring contributions from experts in the field, each section is devoted to a different large animal species and begins with a review of the clinically relevant aspects of the reproductive anatomy and physiology of both males and females. Key topics include the evaluation of breeding soundness, pregnancy diagnosis, diagnosis and treatment of infertility, abortion, obstetrics, surgery of the reproductive tract, care of neonates, and the latest reproductive technology. Includes coverage of all large animal species. All sections provide a review of clinically pertinent reproductive physiology and anatomy of males and females of each species. Complete coverage of the most current reproductive technology, including embryo transfer, estrous synchronization, and artificial insemination. A new section on alternative farming that addresses reproduction in bison, elk, and deer. New to the equine section: stallion management, infertility, and breeding soundness evaluation. New to the bovine section: estrous cycle synchronization, reproductive biotechnology, ultrasonographic determination of fetal gender, heifer development, and diagnosis of abortion. New to the porcine section: artificial insemination, boar/stud management, diseases of postpartum period, and infectious disease control. New to the llama section: infectious disease and nutrition.

*Biology of Domestic Animals* - Taylor & Francis Group 2021-03-31

There is increasing interest in the biology of domestic animals ranging from genomics, transcriptomics, metabolomics, nutritional physiology, and systems biology. This book touches on all of these, with a particular focus on topics such as domestic animals as comparative models to humans, molecular regulation of growth, metabolic efficiency, reproduction, and the impact of stress on growth and development. The book concludes with a discussion on the current and future directions for researchers.

**Emerging Issues in Climate Smart Livestock Production** - Sukanta Mondal 2021-12-15

Emerging Issues in Climate Smart Livestock Production: Biological Tools and Techniques furnishes a detailed reference on livestock sustainability and the role of biotechnology for creating more sustainable livestock production systems. The book is a collection of scientific techniques, including genetic engineering used to modify and improve animals, fishes, and microorganisms for human benefit. The book is particularly attractive for scientists, researchers, students, educators, and professionals in agriculture, veterinary, and biotechnology science. This book promotes several biotechnological approaches that can easily be evaluated in the field for quality assurance programs beneficial to producing livestock products and overall public health. Biotechnology has the potential to improve the productivity of animals via increased growth, carcass quality and reproduction, improved nutrition and feed utilization, improved food quality and safety, improved animal health and welfare, and reduced waste through more efficient utilization of resources. Identifies and explores biotechnological approaches for sustainable livestock and fish production Focuses on strategies for enhancing livestock and fishery productivity and sustainability Presents the latest research on modern methods and technologies

**Balance the Fundamental Verity** - Mifflin And Company Houghton 2019-03-15

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**Introduction to Animal Physiology and Physiological Genetics** - E. M. Pantelouris 2013-10-22

Introduction to Animal Physiology and Physiological Genetics, deals with topics on physiological measurement, comparisons, and analysis of the role of genotypes. This book emphasizes two aspects — the changes of physiological patterns in the course of development and the wide variation that can be found within a species. The text discusses the response mechanisms of living organisms from nerve impulses, chemical sense, muscle reaction, and includes some studies made on brain function. The effects of nutrition and energy such as the intake of food, water, oxygen, and the calculation of basic metabolic rates are explained. The book then discusses the role of the internal environment and that of the interstitial body fluid in the higher animals. The discussion covers blood circulation, cardiac cycle, and a special section on the function of the heartbeat in the spider *Limulus* showing that stimulation of the abdominal ganglia increases the heartbeats. The text also considers significant concepts of physiological genetics, and then explains asexual and sexual reproduction, the sex hormones of invertebrates, and the use of stimulants for animal production. The physiological differences between species are examined, but more particularly on the reservoir of genetic diversity, where differences abound between families and offspring. One research made in molecular biology concludes that genes are responsible for regulating the amino acid sequence of proteins. Molecular biologists, general biologists, zoologists, and microbiologists will find the articles in this collection invaluable.

Reproduction in Farm Animals - E. S. E. Hafez 2013-05-13

When you're looking for a comprehensive and reliable text on large animal reproduction, look no further! the seventh edition of this classic text is geared for the undergraduate student in Agricultural Sciences and Veterinary Medicine. In response to reader feedback, Dr. Hafez has streamlined and edited the entire text to remove all repetitious and nonessential material. That means you'll learn more in fewer pages. Plus the seventh editing is filled with features that help you grasp the concepts of reproduction in farm animals so you'll perform better on exams and in practice: condensed and simplified tables, so they're easier to consult an easy-to-scan glossary at the end of the book an expanded appendix, which includes graphic illustrations of assisted reproduction technology Plus, you'll find valuable NEW COVERAGE on all these topics: Equine

Reproduction: expanded information reflecting today's knowledge Llamas (NEW CHAPTER)  
Micromanipulation of Gametes and In Vitro Fertilization (NEW CHAPTER!) Reach for the text that's revised with the undergraduate in mind: the seventh edition of Hafez's Reproduction in Farm Animals.

**The Biology, Physiology and Sociology of Reproduction, Also Sexual Hygiene, with the Special Reference to the Male** - Winfield Scott Hall 1907

**Ruminant Physiology** - Pierre Cronjé 2000-01-01

The international symposium on Ruminant Physiology (ISRP) is held every five years and is the premier forum for the presentation and discussion of advances in our knowledge of the physiology of ruminant animals. The ninth ISRP was held in South Africa in October 1999. This book brings together edited versions of the keynote review papers presented at the symposium. Contributors are the leading world authorities in their subject, drawn from all continents of the world. The book represents a definitive statement of the current knowledge in this subject.

**Principles of Animal Nutrition** - Guoyao Wu 2017-11-22

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.

The Reproductive Physiology of Mammals - Keith K. Schillo 2009

Reproductive Physiology of Mammals: From Farm to Field and Beyond explores the fundamental principles of mammalian reproductive biology in the context of a society that values the management of the reproductive activity of human and nonhuman animals. The format of the book is compatible with traditional approaches to teaching courses in reproductive physiology, but emphasizes basic biological principles and comparative analyses of reproductive physiology. This departure from tradition is intended to accommodate students' growing interests in companion and wild animals and provide expertise that allows students to pursue careers that require literacy in basic science.

Human Physiology: Metabolism, temperature, reproduction, etc - Luigi Luciani 1921

*Physiology of Reproduction* - Francis Hugh Adam Marshall 1952

**Knobil and Neill's Physiology of Reproduction** - Ernst Knobil 2006

The 3rd edition, the first new one in ten years, includes coverage of molecular levels of detail arising from the last decade's explosion of information at this level of organismic organization. There are 5 new Associate Editors and about 2/3 of the chapters have new authors. Chapters prepared by return authors are extensively revised. Several new chapters have been added on the topic of pregnancy, reflecting the vigorous investigation of this topic during the last decade. The information covered includes both human and experimental animals; basic principles are sought, and information at the organismic and molecular levels are presented. \*The leading comprehensive work on the physiology of reproduction\* Edited and authored by the world's leading scientists in the field \*Is a synthesis of the molecular, cellular, and organismic levels of organization\* Bibliographies of chapters are extensive and cover all the relevant literature

Reproduction in Domestic Animals - Perry T. Cupps 1991-02-20

A unique feature of this book is the focus on large, domestic animals. Previous editions were considered the "Bible" of reproductive physiology. It covers basic, large animal reproductive physiology, provides species-specific information and is suitable as a textbook for upper-division courses.

the physiology of reproduction in the cow - John Hammond

Climate Change and Livestock Production: Recent Advances and Future Perspectives - Veerasamy Sejian 2022-03-10

This book describes the importance of sustainable livestock production from a food security perspective in the changing climate scenario. It covers the amelioration of climate change impacts and describes the various mitigation strategies to reduce enteric methane emissions. The book targets sustainable livestock production by covering diverse concepts of amelioration, mitigation, and policy up-gradation. Further, it examines various adverse impacts of climate change on growth, meat, milk, and reproduction in livestock. Most importantly, the book covers novel aspects of quantifying heat stress response of livestock based on non-invasive methodologies, including infrared thermal imaging, sensor-based applications, hair, urine, and fecal cortisol estimation. Particular emphasis was given to describing the skin-based novel approaches to establish climate resilience in indigenous breeds. The book provides detailed descriptions of alleviating climate change impacts on shelter management, nutritional interventions, and genetics-based strategies involving advanced genomic tools. Lastly, it highlights the livestock species which could be considered ideal climate-resilient animal models to withstand the adversities associated with climate change.

Introduction To Animal Physiology - Satish Kumar Jindal 2011-09-02

This text book on Physiology of Animals is intended to be useful for elementary animal physiology course in colleges of agriculture, zoology, veterinary and animal sciences. In all, the aim has been to present a clear and concise account of the functioning of various systems of domestic animals. Where appropriate, examples from human and non domestic animals such as rat and rabbit have been cited. Physiology has now grown into a vast discipline. The book covers and explains the following deeply: o Nature and Scope of Physiology o Body Fluids: Water, Electrolyte and Acid Base Balance o Respiration o Blood o Circulatory System o Structure & Functions of the Kidney o Rumen Function o Digestion & Metabolism o Vitamins and Minerals o Endocrine Glands and Their Secretions o Reproduction in the Male o Female Reproduction o Lactation o Nervous System o Bone, Skin and Special Senses o Physiology of Temperature Regulation

Reproductive Physiology of Marsupials - C. E. Tyndale-Biscoe 1987-01-30

The results of this compilation of new research on the reproductive physiology of marsupials reveal much about their patterns of reproduction and evolution in comparison to monotremes and eutherians.

*Sex, Stress and Reproductive Success* - David A. Lovejoy 2011-04-04

Any events that challenge the survival of living organisms may be classified as stressors. These stressors could include, for example, lack of food, increased population pressure, predatory pressure, climatic events or in the case of humans, loss of a loved one, lack of financial security or uncertainty in the future. Although most physiological systems are affected by stress, those systems that regulate reproductive physiology and behaviour are the most sensitive. All multicellular organisms show a stress related effect on reproduction, although the more complex organisms, such as mammals, have the most complex effects. The objective of this book is to provide a comparative analysis of the mechanisms by which stress regulates reproduction

exploring the evolution of stress perceiving systems from the simplest organisms to humans. Taking an integrated approach, utilising a genes-to-environment overview, the book examines the stressors that occur at all levels of organisation. These theories are used to examine and explain human and animal reproductive behaviour and physiology under stressful conditions providing a well-written, concise introduction to this important subject.

**Animal Agriculture** - Fuller W. Bazer 2019-11

Land-based production of high-quality protein by livestock and poultry plays an important role in improving human nutrition, growth and health, as well as economical and social developments worldwide. 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. The application of techniques in biotechnology can help to achieve this goal. In addition, a promising, mechanism-based approach is to

optimize the proportion and amounts of amino acids and other nutrients in diets for maximizing whole-body protein synthesis and feed efficiency. Furthermore, new management skills are required to reduce various environmental and disease-associated stresses in livestock and poultry under practical production conditions. Improvements in farm animal productivity will not only decrease the contamination of soils, groundwater, and air, but will also help sustain animal agriculture to produce high-quality protein for the expanding global demand in the face of diminishing resources. 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. In one book readers will find all the necessary information on important issues facing modern animal agriculture, namely its sustainability, challenges and innovative solutions. This book features new advances in animal breeding, biotechnology, nutrition, reproduction and management, as well as meat science. Such knowledge is expected to transform global animal production practices. Integrates new knowledge in animal breeding, biotechnology, nutrition, reproduction and management Addresses the urgent issue of sustainability in modern animal agriculture Provides practical solutions to solving current and future problems that face animal agriculture worldwide