Veterinary Epidemiologic Research

Veterinary epidemiology is the study of the distribution and determinants of animal health-, welfare- and production- related states or events in specified populations and the application of this study to control of health problems. Epidemiology is the study and analysis of the distribution (who, when, and where), patterns and determinants of health and disease conditions in defined populations. It is a cornerstone of public health, and shapes policy decisions and evidence-based practice by identifying risk factors for disease and targets for preventive healthcare. Epidemiologists help with study design, collection, and statistical analysis of data, amend interpretation and dissemination of results (including peer review and occasional systematic review). Epidemiology has helped develop methodology used in clinical research, public health studies, and, to a lesser extent, basic research in the biological sciences.

The Hong Kong Jockey Club (HKJC) Veterinary Departments have enabled an environment suitable to set an international benchmark on a project concept to enhance the welfare of racehorses, based on research using extensive and detailed data collection within an integrated framework. Retrospective analysis of data collected over the past several years has been made available. The approach outlined in this book has two broad objectives. The first is to investigate outcomes of interest using data which has already been collected. Outcomes of interest are likely to include (though not be limited to), variables that influence injury, retirement or performance. The second broad objective is to extend the approach to a more general assessment of the usefulness of different data types and different variables, and the assessment of data collection, collation, analysis and reporting methodology, as well as the development of intervention strategy. This book concludes with a philosophical view point on the veterinary management of thoroughbred racing injuries in which a “think-out-of-the-box” concept in assessing the risk of racehorse injuries is discussed. One outcome of this is an integrated technology approach for tracking horse performance, recently developed by Cambridge Design UK. The integrated technology (flight deck recorder concept) for monitoring trackwork and race performance of racehorses can allow a standardised review of detailed training data and biometric readings from direct measurements of individual horse, to assess the progress of performance and the effect of track conditions. The development of integrated performance tracking technology is mission critical for the worldwide racing industry to optimize horse welfare, safety and racing performance, as well as to enhance the integrity of racing.

Intended as an introduction for veterinarians and other animal health professionals interested in and wishing to apply epidemiological methods in their day-to-day work, this book provides a practical guide for those new to the field. Its applied focus covers the principles of epidemiology in real world situations and practical implementation of disease outbreak investigation, for both emerging and endemic diseases. Techniques and methods are discussed, supported by case studies and practical examples to illustrate their application. The book is clearly written and accessible, providing readers with practical information and encouraging the development of problem-solving skills. It is an essential handbook for veterinary surgeons and students and those involved in animal health, food safety and epidemiology.

Bovine tuberculosis (bTB) is a significant zoonotic pathogen with a global distribution,

and a considerable economic impact. It has a notoriously complex epidemiology, varying by affected region and often involving multiple-host species. Here we present an international collection of papers that address both national and international factors impacting on the control of bovine tuberculosis. We hope this Research Topic will provide a forum which may generate a greater understanding of the disease in a wider context, and inform future eradication efforts through the design of more effective interventions.

While veterinary medicine has always valued the concepts and methods of epidemiology, they are virtually inseparable in today's clinical practice. With access to an ever-expanding number of journals, as well as countless Internet sources, more and more veterinarians are practicing evidence-based medicine. This is defined as the process of systematically finding, appraising, and adopting research findings as the primary basis for clinical decisions. "An underlying premise of the book is that patient-based research is epidemiologic research....It logically follows that the users of this information, veterinary students and practitioners, be skilled in its application to patient care." – from the preface Veterinary Clinical Epidemiology, Third Edition focuses on developing a deeper understanding of epidemiology and exemplifies how an improved capacity for interpreting and critiquing available literature ultimately leads to improved patient care. In preparing this edition, Ronald Smith, a highly respected epidemiologist, practitioner, and educator, has entirely updated his earlier work to reflect those changes that have dramatically altered the practice of veterinary medicine over the last ten years. New to the third edition: · Numerous updated examples of the application of epidemiology in clinical practice · Expanded journal representation to include a larger selection of international research · Increased coverage of hypothesis testing, survey design, sampling and epidemiologic conceptsrelated to the practice of evidence-based medicine · Revised and updated information on diagnostic testing, risk assessment, causality, and the use of statistics Veterinary Clinical Epidemiology, Third Edition provides practitioners and researchers with the knowledge and tools to understand, critically assess, and make use of the medical literature that is vital to the treatment of animal patients.

Am Anfang jeder empirischen Studie in der Tiermedizin steht die Studienplanung. Diese dient der statistischen Absicherung der erzielten Ergebnisse bei möglichst niedrigen Untersuchungskosten. Zugleich ist die Studienplanung durch frühzeitige Bestimmung der erforderlichen Probandenzahl auch aktiver Tierschutz! Nach einer kurzen Einführung in die statistischen und epidemiologischen Grundlagen demonstrieren die Autoren am realen Beispiel die Einsatzbereiche und Durchführung verschiedener Methoden zur Bestimmung der Stichprobengröße. Fallbezogene Übungen erlauben die Eigenkontrolle und direkte Übertragbarkeit der Verfahren auf das eigene Untersuchungsthema.

Antimicrobial resistance is arguably the greatest threat to worldwide human health. This book evaluates the roles of human water use, treatment and conservation in the development and spread of antimicrobial resistance. Designed as a companion volume to Antimicrobial Resistance in the Environment (Wiley-Blackwell, 2012), this book is a multi-disciplinary synthesis of topics related to antimicrobial resistance and wastewater treatment processes. Antimicrobial Resistance in Wastewater Treatment Processes assembles detailed discussions written by many of the world's best-known experts in

microbiology, civil engineering, chemistry, environmental science, public health and related fields. The book presents a collection of subjects that includes: Current knowledge of the role of the environment in development and spread of antimicrobial resistance Chemical analysis of antibiotics in environmental samples Molecular methods for analysis of antimicrobial resistance genes Advanced wastewater treatment processes and antimicrobial resistance effects Public perception of risk related to health consequences of antimicrobial resistance Public health implications of antimicrobial resistance with focus on wastewater treatment processes Antimicrobial resistance has gained a foothold in the global consciousness as a serious public health threat. There is a much greater appreciation for the role of the environment in the dissemination of antimicrobial resistance and the effects of pollutants that can potentially promote development of resistance in bacteria. Contaminants released from wastewater treatment plants are a concern. In Antimicrobial Resistance in Wastewater Treatment Processes, readers will be guided through examinations of the current science related to this important health issue.

This book is comprised of 7 chapters covering the geographical distribution and control of ticks and tickborne diseases in the Euro-Asia region. Chapter 1 focuses on the factors behind the emergence and reemergence of tickborne diseases, highlighting the theme of environmental and climatic change and also the renewed interest in ticks and the diseases they transmit, which has been stimulated by an increased awareness of tickborne zoonoses. Chapter 2 describes the basic biology of a total of 25 important tick species endemic to part or all of the geographical region under consideration, and also includes short accounts of their life cycles, geographical distributions and significance as vectors. The factors responsible for the spread and distribution of ticks are considered in chapter 3, which include climate, land use, animal movement (both wild and domestic) and importation of exotic vertebrates. Tickborne infections are reviewed in chapter 4. The geographical distribution of tickborne pathogens is the focus of Chapter 5, in the form of maps with accompanying qualifying and illustrative comments. Chapter 6 addresses the distributions of the vector ticks. Chapter 7 addresses the surveillance and control of ticks and tickborne diseases. It includes a brief description of tick sampling methods, an introduction to the principles of surveillance and monitoring and control options for both ixodids and argasids.

The repertoire of quantitative analytical techniques in disciplines such as ecology, decision science, and evolutionary biology has grown, in part enabled by the development and increased availability of computational resources. Integration of cutting-edge, quantitative tools into veterinary epidemiology that have been borrowed from such disciplines has offered opportunities to advance the study of disease dynamics in animal populations, to improve and guide decision-making related to disease prevention, control, or eradication. Furthermore, the need to explore new analytical methods for veterinary epidemiology has been driven by the increasing availability and complexity of animal disease data. The objective of this e-book is to contribute to current methods in epidemiology by 1) presenting and discussing novel analytical tools that help advance our understanding of epidemiology; and 2) demonstrating how inferences emerging from the application of novel analytical tools can be incorporated into decision-making related to animal health. The e-book constitutes a collection of articles that explore the applications of a variety of analytical

methods such as machine learning, Bayesian risk assessment and an advanced form of social network analysis in the modern epidemiologic study of animal diseases.

The relationship among these three components of wildlife management is explained in chapters written by leading experts and is designed to prepare wildlife students for careers in which they will be charged with maintaining healthy animal populations; finding ways to restore depleted populations while reducing overabundant, introduced, or pest species; and managing relationships among various human stakeholders.Topics covered in this book include; The definitions of wildlife and management• Human dimensions of wildlife management• Animal behavior• Predator–prey relationships ; Structured decision making; Issues of scale in wildlife management; Wildlife health; Historical context of wildlife management and conservation; Hunting and trapping; Nongame species; Nutrition ecology; Water management; Climate change; Conservation planning

As a Follow-up to their Arrival Cattle Management issue, Drs. Brad White and Daniel Thomson explore Feedlot Production Medicine in this issue. Articles feature an expert panel of authors on topics such as: Epidemiology for feedlots, Outbreak investigation, Sick animal identification, Necropsy & Euthanasia, BVD management in feedlot, Reference Intervals in Avian and Exotic Hematology, and more!

The equine practitioner will find this comprehensive issue packed with useful, practical information on anesthesia. Topics include neuromuscular blocking agents and monitoring, anesthesia for dystocia/neonatal, anesthesia for colic, inhalant anesthetics, cardiac output monitoring, local anesthetic techniques, morbidity and mortality and risk, cardiovascular support, respiratory mechanics and mechanical ventilation, total intravenous anesthesia, balanced anesthesia and constant rate infusions, and much more!

Der Erzähler erfindet (»Ich stelle mir vor:«) mögliche Lebensgeschichten dreier Personen: Da ist Gantenbein, der einen Blinden spielt, um so genauer seine Umwelt beobachten zu können. Oder da ist Enderlin, der immer »ein fremder Herr« bleibt. Auch Svoboda muß die Erfahrung machen, daß Liebe und Ehe endlich sind. Übrig im Spiel der erdichteten Rollen bleibt: Gantenbein.

Worldwide, mastitis is still one of the most important diseases in the dairy sector. Being a multifactorial disease, caused by multiple pathogens, control remains a difficult issue. Mastitis not only affects the health of milk-producing animals, having consequences for the profitability of dairy farms, it also affects the animal welfare. Moreover, mastitis negatively influences the milk quality having consequences for the dairy processing industry. In other words: mastitis affects a large part of the dairy production chain.

Equine Sports Medicine and Surgery provides the most up-to-date, in-depth coverage of the basic and clinical sciences required for management of the equine athlete. The unique treatment of exercise physiology and training within a clinical context, together with detailed review of all diseases affecting athletic horses, makes this the most comprehensive text available. The book will provide a thorough grounding in the basic physiology of each body system, and in particular the responses of each body system to exercise and training, that will be separate, but highly relevant to, the succeeding sections on clinical disorders of each body system. The highly respected editors have brought together an internationally renowned team of 50 contributors, producing the ultimate reference for veterinarians, students, horse-owners, and all those involved in the world of equine athletics. High quality artwork, including relevant radiographic, ultrasonographic, CAT scan, and MRI images, aid understanding and diagnosis Provides a truly international perspective, including guidelines pertinent to different geographic areas, and racing jurisdictions In-depth coverage of the role of the veterinarian in the management of athletic horses Explores the use of complementary therapies ~

A comprehensive introduction to the role of epidemiology in veterinary medicine This fully revised and expanded edition of Veterinary Epidemiology introduces readers to the field of veterinary epidemiology. The new edition also adds new chapters on the design of observational studies, validity in epidemiological studies, systematic reviews, and statistical modelling, to deliver more advanced material. This updated edition begins by offering an historical perspective on the development of veterinary medicine. It then addresses the full scope of epidemiology, with chapters covering causality, disease occurrence, determinants, disease patterns, disease ecology, and much more. Veterinary Epidemiology, Fourth Edition: ? Features updates of all chapters to provide a current resource on the subject of veterinary epidemiology ? Presents new chapters essential to the continued advancement of the field ? Includes examples from companion animal, livestock, and avian medicine, as well as aquatic animal diseases ? Focuses on the principles and concepts of epidemiology, surveillance, and diagnostic-test validation and performance ? Includes access to a companion website providing multiple choice questions Veterinary Epidemiology is an invaluable reference for veterinary general practitioners, government veterinarians, agricultural economists, and members of other disciplines interested in animal disease. It is also essential reading for epidemiology students at both the undergraduate and postgraduate levels.

Global Integrity Project has brought together leading scientists and thinkers from around the world to examine the combined problems of threatened and unequal human well-being, degradation of the ecosphere, and unsustainable economies. Based on the proposition that healthy, functioning ecosystems are a necessary prerequisite for both economic security and social justice, the project is built around the concept of ecological integrity and its practical implications for policy and management.Ecological Integrity presents a synthesis and findings of the project. Contributors -- including Robert Goodland, James Karr, Orie Loucks, Jack Manno, William Rees, Mark Sagoff, Robert Ulanowicz, Philippe Crabbe, Laura Westra, David Pimentel, Reed Noss, and others -- examine the key elements of ecological integrity and consider what happens when integrity is lost or compromised. The book: examines historical and philosophical foundations of the concept of ecological integrity explores how integrity can be measured examines the relationships among ecological integrity, human health, and food production looks at economic and ethical issues that need to be considered in protecting ecological integrity offers concrete recommendations for reversing ecological degradation while promoting social and economic justice and welfare .Contributors argue that there is an urgent need for rapid and fundamental change in the ecologically destructive patterns of collective human behavior if society is to survive and thrive in coming decades.Ecological Integrity is a groundbreaking book that integrates environmental science, economics, law, and ethics in problem analysis, synthesis, and solution, and is a vital contribution for anyone concerned with interactions between human and planetary health.

This issue of Veterinary Clinics: Exotic Animal Practice, guest edited by Dr. Shangzhe Xie, is focused on Herd/Flock Health and Medicine for the Exotic Animal Practitioner. This is one of three issues each year selected by the series consulting editor, Dr. Jörg Mayer. Article topics include: Principles of herd/flock health and medicine; Therapeutics in herd/flock medicine; Managing the health of captive flocks of birds; Managing disease outbreaks in captive flocks of birds; Managing the health of captive herds of exotic companion mammals; Managing disease outbreaks in captive herds of exotic companion mammals; Managing the health of captive groups of reptiles and amphibians; Prevention is Better Than Cure: an Overview of Disease Outbreak Management in Herptiles; Reproduction management of herds/flocks of exotic animals; and Disease prevention programs in herds/flocks of exotic animals

Approaches and techniques of clinical epidemiology have become increasingly prominent in veterinary literature. This second edition of Veterinary Clinical Epidemiology: A Problem-Oriented Approach reflects the increasing recognition of the role of clinical epidemiology by focusing on the application of epidemiologic principles and techniques of problems regularly faced by veterinary practitioners. Numerous examples from veterinary literature indicate how experience with patients can be used to explore issues of importance in the practice of veterinary medicine while controlling for bias, confounding, and chance. The first part of the book focuses on the application of epidemiology in medical decision-making, while the second part focuses on the epidemiology of disease in populations and outbreak investigation. Included in this text are a glossary and an extensive bibliography, as well as myriad updates to reflect the expanding use of epidemiologic methodology in clinical research. Veterinary Clinical Epidemiology: A Problem-Oriented Approach serves as both a teaching resource for veterinary epidemiology and a reference on the application of epidemiologic methods in veterinary clinical research.

Ideal for veterinary students, residents and clinicians, the fourth edition of this bestselling textbook has been fully updated in line with developments in research and teaching. The logical chapter progression reflects the stages in a clinical case work-up and how epidemiological concepts and methods contribute. This new edition provides guidelines for improving patient and population health outcomes, and detecting emerging diseases through systematic evaluation of patient encounters and electronic medical records incorporates new methodologies and concepts drawn from the recent veterinary practice literature updates chapter content including expanded coverage of risk, statistical and economic analyses, and surveillance for emerging diseases more than 60 examples of clinical research drawn from the international veterinary practice literature presented as structured abstracts; follow-up questions invite the reader to participate in the analysis of results online links to full text versions of more than half of structured abstracts and more than 40% of the book’s 174 literature citations updates the listing and review of public and private online resources,

including guidelines for online literature searching and critical evaluation of clinical reports. Today's veterinary curricula places greater emphasis on experiential/problem-based learning versus discipline-oriented instruction. This fourth edition is ideally suited to introduce epidemiologic concepts and methodologies to veterinary students in the context of the patient encounter, and should be of use at any point in the veterinary curriculum.

Are you studying a course in veterinary epidemiology? Do you need a book that explains epidemiology in an understandable way? Dirk Pfeiffer is Professor of Veterinary Epidemiology at the Royal Veterinary College in London, UK. He has designed and taught international training courses in epidemiology all over the developed and developing world, from Australia to Vietnam. He currently provides scientific expertise to the European Food Safety Authority, the European Commission, DEFRA, the United Nation's Food and Agriculture Organization and various national governments. He has over 20 year's practical experience in the field and continues to work on some of the most high profile cases of global animal health. Dirk brings his wealth of knowledge to this concise introduction to the subject. This book covers all the core principles you need to know for your epidemiology course, including: The basic epidemiological concepts Understanding and designing epidemiological studies Measuring cause-effect relationships Statistical analysis and bias Sampling methodology Interpreting diagnostic tests The basic concepts of disease control and eradication The book will also be of use to animal health professionals who need an easy-to-understand introduction to the subject

Ziel dieses Buches ist es, die für epidemiologische Studien notwendigen methodischen Kenntnisse zu vermitteln. Dazu werden die Konzepte der Konstruktion und Gewinnung epidemiologischer Maßzahlen, die wichtigsten Erhebungsmethoden, die Bewertung und Korrektur von Fehlerquellen sowie die grundlegenden Auswertungsmethoden beschrieben. Die statistischen Methoden werden in einem eigenen Anhang beschrieben. In der 5. Auflage wurden das Autorenteam erweitert und der Text umfangreichen Erweiterungen unterzogen. Enthalten sind eine Vielzahl von praktischen Beispielen.

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An introduction to the planning and evaluation of disease control policy; Epidemiology: some basic concepts and definitions; The use of descriptive statistics in the presentation of epidemiological data; The epidemiological approach to investigating disease problems; Statistical methods in the analysis of epidemiological data; An introduction to the use of economics in the planning and evaluation of disease control programmes; Estimating the costs of diseases and the benefits of their control; Economics and decision-making in disease control policy; Modelling in veterinary epidemiology and economics.