



Centro de Documentación / Documentation Center

Objetivos/ Objectives

Identificar y atender las necesidades de información, adquisición, organización, almacenamiento, generación, uso y difusión de la información en salud pública veterinaria y proveer recursos bibliográficos técnicos-científicos al equipo de profesionales de la unidad y a los usuarios externos.

Identify and take care of the needs of information, acquisition, organization, storage, generation, use and diffusion of the information in veterinary public health and provide technical scientific bibliographical resources to the professional staff of the unit and to the users external.

Temas de interés general / Subjects of general interest

Boas Festas - Felices Fiestas - Season's Greetings



A **Árvore de Natal** da Bradesco Seguros e Previdência, localizada na Lagoa Rodrigo de Freitas, no Rio de Janeiro, Brasil, foi lançada em 1996, com 48 metros de altura. Do lançamento para cá, ela já aumentou de tamanho várias vezes, destacando-se em 1999, quando entrou para o Guinness Book como a maior Árvore de Natal flutuante do mundo, com 76 metros. Hoje tem 85 metros de altura. Ao longo do tempo, ganhou canhões de luz, movimentos, balé das águas, entre outros atrativos. **Esta 14^a**

Edição tem como tema "A União dos Nossos Melhores Desejos".

El **Árbol de Navidad** de Bradesco Seguros y de la Previdencia, localizada en la Laguna Rodrigo de Freitas, en Río de Janeiro, Brasil, se lanzó en 1996, con 48 metros de altura. Del lanzamiento hasta hoy, ella ya aumentó de tamaño varias veces, destacándose en 1999, cuando entró para el Guinness Book como el Árbol de Navidad fluctuante más grande del mundo, con 76 metros. Hoy tiene 85 metros de altura. A lo largo del tiempo, ganó cañones de luz, movimientos, balletes de las aguas, entre otros atractivos. **Esta 14ª Edición tiene como tema "A União de Nossos Melhores Desejos"**.

The **Tree of Christmas** of the Bradesco Safe and Providence, located in the Lagoon Rodrigo de Freitas, in Rio De Janeiro, Brazil, was launched in 1996, with 48 height meters. Of the launching until here, it already increased of size several times, being emphasized in 1999, when it entered for the Guinness Book as the biggest Tree of floating Christmas of the world, with 76 meters. Today it has 85 height meters. Throughout the time, it gained cannons of light, movements, ballet of waters, among others attractive. **This 14. Edition has as subject "The Union of Our Better Wishes"**.

[Informaciones disponibles en formato electrónico / Information available in electronic format](#)

[Brucellosis / Brucellosis](#)



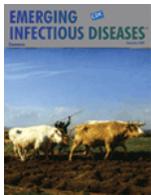
Brucellosis: the case for live, attenuated vaccines

Ficht TA, Kahl-McDonagh MM, Arenas-Gamboa AM, Rice-Ficht AC
Vaccine 2009 Nov; 27 Suppl 4: D40-3

The successful control of animal brucellosis and associated reduction in human exposure has limited the development of human brucellosis vaccines. However, the potential use of Brucella in bioterrorism or biowarfare suggests that direct intervention strategies are warranted. Although the dominant approach has explored the use of live attenuated vaccines, side effects associated with their use has prevented widespread use in humans. Development of live, attenuated Brucella vaccines that are safe for use in humans has focused on the deletion of important genes required for survival. However, the enhanced safety of deletion mutants is most often associated with reduced efficacy. For this reason recent efforts have sought to combine the optimal features of a attenuated live vaccine that is safe, free of side effects and efficacious in humans with enhanced immune stimulation through microencapsulation. The competitive advantages and innovations of this approach are: (1) use of highly attenuated, safe, gene knockout, live Brucella mutants; (2) manufacturing with unique disposable closed system technologies, and (3) oral/intranasal delivery in a novel microencapsulation-mediated controlled release formula to optimally provide the long term mucosal immunostimulation required for protective immunity. Based upon preliminary data, it is postulated that such vaccine delivery systems can be storage stable, administered orally or intranasally, and generally applicable to a number of agents.

Text in English

[Encefalopatía Espongiforme Transmisible / Transmissible Spongiform Encephalopathy](#)



Molecular model of prion transmission to humans

Jones M, Wight D, Barron R, Jeffrey M, Manson J, Prowse C, Ironside JW, Head MW
Emerg Infect Dis. 2009 Dec; 15 (12): 2013-6

To assess interspecies barriers to transmission of transmissible spongiform encephalopathies, we investigated the ability of disease-associated prion proteins (PrPd) to initiate conversion of the human normal cellular form of prion protein of the 3 major PRNP polymorphic variants in vitro. Protein misfolding cyclic amplification showed that conformation of PrPd partly determines host susceptibility.

Text in English

<http://www.cdc.gov/eid/content/15/12/pdfs/2013.pdf>

Fiebre aftosa / Foot and Mouth Disease



Impact of spatial clustering on disease transmission and optimal control

Tildesley MJ, House TA, Bruhn MC, Curry RJ, O'Neil M, Allpress JL, Smith G, Keeling MJ
Proc Natl Acad Sci U S A 2009 Dec

Spatial heterogeneities and spatial separation of hosts are often seen as key factors when developing accurate predictive models of the spread of pathogens. The question we address in this paper is how coarse the resolution of the spatial data can be for a model to be a useful tool for informing control policies. We examine this problem using the specific case of foot-and-mouth disease spreading between farms using the formulation developed during the 2001 epidemic in the United Kingdom. We show that, if our model is carefully parameterized to match epidemic behavior, then using aggregate county-scale data from the United States is sufficient to closely determine optimal control measures (specifically ring culling). This result also holds when the approach is extended to theoretical distributions of farms where the spatial clustering can be manipulated to extremes. We have therefore shown that, although spatial structure can be critically important in allowing us to predict the emergent population-scale behavior from a knowledge of the individual-level dynamics, for this specific applied question, such structure is mostly subsumed in the parameterization allowing us to make policy predictions in the absence of high-quality spatial information. We believe that this approach will be of considerable benefit across a range of disciplines where data are only available at intermediate spatial scales.

Text in English

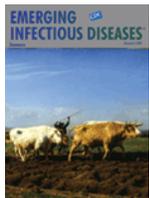
<http://www.pnas.org/content/early/2009/11/18/0909047107.full.pdf+html>

<http://www.pnas.org/content/early/2009/11/18/0909047107.long>

Supporting Information

http://www.pnas.org/content/suppl/2009/11/24/0909047107.DCSupplemental/pnas.0909047107_SI.pdf

Hantavirus



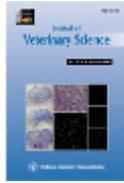
Cross-sectional survey of hantavirus infection, Brazil

Limongi JE, da Costa FC, Pinto RM, de Oliveira RC, Bragagnolo C, Lemos ER, de Paula MB, Pajuaba Neto AA, Ferreira MS
Emerg Infect Dis. 2009 Dec; 15(12): 1981-3

Hantaviruses are assigned to categories A and C on the National Institute of Allergy and Infectious Diseases (NIAID) Priority Pathogens list and to category C on the Centers for Disease Control and Prevention (CDC) Emergency Preparedness and Response list of bioterrorism agents/diseases. These rodent-borne viruses are members of the family Bunyaviridae and are transmitted to humans in aerosols of rodent excreta. There are more than 20 recognized hantaviruses, some of which are associated with one of two serious human diseases: hemorrhagic fever with renal syndrome (HFRS) or hantavirus pulmonary syndrome (HPS). Because of the global distribution of hantaviruses, the historical association of HFRS-causing viruses with military operations and the recent emergence of the HPS-causing viruses, efforts are continuing to develop safe and effective hantavirus vaccines. This review addresses the significance of hantaviruses as they relate to biodefense and provides information about conventional and molecular vaccines for HFRS that have advanced to clinical studies.

Text in English

Influenza Aviar / Avian Influenza



Evaluation of a competitive ELISA for antibody detection against avian influenza virus

Dae Sub Song, Youn Jeong Lee, Ok Mi Jeong, Yong Joo Kim, Chan Hee Park, Jung Eun Yoo, Woo Jin Jeon, Jun Hun Kwon, Gun Woo Ha, Bo Kyu Kang, Chul Seung Lee, Hye Kwon Kim, Byeong Yeal Jung, Jae Hong Kim, Jin Sik Oh
J Vet Sci. 2009 Dec; 10 (4): 323-329

Active serologic surveillance is necessary to control the spread of the avian influenza virus (AIV). In this study, we evaluated a commercially-available cELISA in terms of its ability to detect AIV antibodies in the sera of 3,358 animals from twelve species. cELISA detected antibodies against reference H1-through H15-subtype AIV strains without cross reactivity. Furthermore, the cELISA was able to detect antibodies produced following a challenge of the AIV H9N2 subtype in chickens, or following vaccination of the AIV H9 or H5 subtypes in chickens, ducks and geese. Next, we tested the sensitivity and specificity of the cELISA with sera from twelve different animal species, and compared these results with those obtained by the hemagglutination-inhibition (HI) test, the gold standard in AIV sera surveillance, a second commercially-available cELISA (IZS ELISA), or the agar gel precipitation (AGP) test. Compared with the HI test, the sensitivities and specificities of cELISA were 95% and 96% in chicken, 86% and 88% in duck, 97% and 100% in turkey, 100% and 87% in goose, and 91% and 97% in swine, respectively. The sensitivities and specificities of the cELISA in this study were higher than those of IZS ELISA for the duck, turkey, goose, and grey partridge sera samples. The results of AGP test against duck and turkey sera also showed significant correlation with the results of cELISA ($R\text{-value} \geq 0.9$). In terms of flock sensitivity, the cELISA correlated better with the HI test than with commercially-available indirect ELISAs, with 100% flock sensitivity.

Text in English

Inocuidad de los Alimentos / Food Safety



Future challenges to microbial food safety

Havelaar AH, Brul S, de Jong A, de Jonge R, Zwietering MH, Ter Kuile BH
Int J Food Microbiol 2009 Oct

Despite significant efforts by all parties involved, there is still a considerable burden of foodborne illness, in which micro-organisms play a prominent role. Microbes can enter the food chain at different steps, are highly versatile and can adapt to the environment allowing survival, growth and production of toxic compounds. This sets them apart from chemical agents and thus their study from food toxicology. We summarize the discussions of a conference organized by the Dutch Food and Consumer Products Safety Authority and the European Food Safety Authority. The goal of the conference was to discuss new challenges to food safety that are caused by micro-organisms as well as strategies and methodologies to counter these. Management of food safety is based on generally accepted principles of Hazard Analysis Critical Control Points and of Good Manufacturing Practices. However, a more pro-active, science-based approach is required, starting with the ability to predict where problems might arise by applying the risk analysis framework. Developments that may influence food safety in the future occur on different scales (from global to molecular) and in different time frames (from decades to less than a minute). This necessitates development of new risk assessment approaches, taking the impact of different drivers of change into account. We provide an overview of drivers that may affect food safety and their potential impact on foodborne pathogens and human disease risks. We conclude that many drivers may result in

increased food safety risks, requiring active governmental policy setting and anticipation by food industries whereas other drivers may decrease food safety risks. Monitoring of contamination in the food chain, combined with surveillance of human illness and epidemiological investigations of outbreaks and sporadic cases continue to be important sources of information. New approaches in human illness surveillance include the use of molecular markers for improved outbreak detection and source attribution, sero-epidemiology and disease burden estimation. Current developments in molecular techniques make it possible to rapidly assemble information on the genome of various isolates of microbial species of concern. Such information can be used to develop new tracking and tracing methods, and to investigate the behavior of micro-organisms under environmentally relevant stress conditions. These novel tools and insight need to be applied to objectives for food safety strategies, as well as to models that predict microbial behavior. In addition, the increasing complexity of the global food systems necessitates improved communication between all parties involved: scientists, risk assessors and risk managers, as well as consumers.

Text in English (article in press)

Leishmaniasis Visceral Canina / Canine Visceral Leishmaniosis



Respuesta inmune a la infección por *Leishmania infantum* en caninos

Rodríguez Villamizar IE

REDVET 2009 Nov; 10 (11)

La leishmaniasis visceral canina (LVC) es una enfermedad infecciosa clásicamente asociada al protozoo *Leishmania spp*, que se manifiesta con un amplio espectro patológico, desde infecciones asintomáticas hasta procesos viscerales fatales. El control de la infección implica el desarrollo de una respuesta inmune protectora, que en el caso de los perros es dicotómica, caracterizada tanto por mecanismos humorales como celulares. Los mecanismos humorales involucran anticuerpos y complemento mientras que el mecanismo celular implica la activación de macrófagos y linfocitos T con la producción de citocinas. El objetivo de esta revisión es ofrecer un panorama general de los mecanismos inmunológicos, células y moléculas que intervienen durante el establecimiento de la infección por *Leishmania* en perros.

Text in Spanish

<http://www.veterinaria.org/revistas/redvet/n111109/110904.pdf>

Rabia / Rabies



Landscape risk factors for attacks of vampire bats on cattle in Sao Paulo, Brazil

Gomes MN, AMV, Lewis N, Gonçalves CA, Nogueira Filho VS

Prev Vet Med 2009 Dec

Vampire-bat (*Desmodus rotundus*) attacks on cattle are a major concern for cattle-raising area. Blood loss and paralytic rabies due to bat bites can impose severe losses on the livestock. We took four municipalities inside the Sao Joao da Boa Vista veterinary district (Sao Paulo, Brazil) as a study area and tested a set of landscape features for spatial correlation with distance to areas in which vampire-bat attacks on cattle were documented. Bat- and cattle-related data from the Sao Paulo State Rabies Control Program were used. Landscape data (first-order rivers and their tributaries, main roads, railways and urban areas) were obtained from official cartographic agencies; forest, sugarcane and pasture data were acquired from remote-sensing mappings. The study area was taken as a grid split into 178 cells. Each 4 km × 4 km cell was filled with bat, cattle and landscape data. Our analysis detected that grid cells that were closer to areas of bat attacks on cattle had higher cattle density and a greater percentage of the

land committed to sugarcane cropping, and were close to forest fragments. These results shed light on the need for rethink the Rabies Control Program strategies for defining the surveillance of vampire-bat populations and rabies control in the state of Sao Paulo, Brazil.

Text in English (article in press)

Tuberculosis Caprina / Caprine Tuberculosis



The use of MPB70-ELISA for the diagnosis of caprine tuberculosis in Brazil

Carla Marassi C, Almeida C, Pinheiro P, Vasconcellos S, Lilenbaum W
Vet Res Commun. 2009 Dec; 33 (8): 937–943

After one clinical case that evidenced the outbreak, a complete screening by intradermal tuberculin test was performed in one goat herd in Brazil. The herd was composed by 500 animals and 83 of them (16.6%) showed to be reactive to the comparative double cervical intradermal test. Four months after the test, all the 83 reactive animals were slaughtered and blood samples were collected from 45 of them, for serological assays. From those 45, 32 were randomly chosen for necropsy and histopathological and bacteriological procedures were conducted. Histopathology evidenced at least one characteristic lesion of tuberculosis in each animal, with typical granulomas where acid-fast bacilli (AFB) could be observed. Bacteriology was positive for *Mycobacterium bovis* in 22 samples (68.7%), therefore confirming the etiology of the outbreak. Sera of 45 animals plus 20 other from a certified free tuberculosis farm were tested in an ELISA using the recombinant *M.bovis* protein MPB70 as capture antigens. From those, 43 were reactive to the test, with high ODs results, considering a cut-off point established by ROC curve analyzing results (cut-off=0.8; mean=0.55; range: 0.157–1.357). These results suggest that MPB70-ELISA can be considered as a reliable tool to diagnose tuberculosis in goat herds, since this assay was capable to correctly detect 95.6% of the animals here examined.

Text in English

Zoonosis / Zoonoses



Epidemic dynamics at the human-animal interface

Lloyd-Smith JO, George D, Pepin KM, Pitzer VE, Pulliam JR, Dobson AP, Hudson PJ, Grenfell BT
Science 2009 Dec; 326 (5958): 1362-7

Few infectious diseases are entirely human-specific: Most human pathogens also circulate in animals or else originated in nonhuman hosts. Influenza, plague, and trypanosomiasis are classic examples of zoonotic infections that transmit from animals to humans. The multihost ecology of zoonoses leads to complex dynamics, and analytical tools, such as mathematical modeling, are vital to the development of effective control policies and research agendas. Much attention has focused on modeling pathogens with simpler life cycles and immediate global urgency, such as influenza and severe acute respiratory syndrome. Meanwhile, vector-transmitted, chronic, and protozoan infections have been neglected, as have crucial processes such as cross-species transmission. Progress in understanding and combating zoonoses requires a new generation of models that addresses a broader set of pathogen life histories and integrates across host species and scientific disciplines.

Text in English



Perceptions, circumstances and motivators that influence implementation of zoonotic control programs on cattle farms

Ellis-Iversen J, Cook AJ, Watson E, Nielen M, Larkin L, Wooldridge M, Hogeveen H
Prev Vet Med 2009 Dec

The implementation of disease control programs on farms requires an act of behavioral change. This study presents a theoretical framework from behavioral science, combined with basic epidemiological principles to investigate and explain the control of zoonotic agents on cattle farms. A pathway to disease control model was adapted from existing models in behavioral science and human medicine. Field data was used to demonstrate the validity of the model to identify and explain motivational factors for implementation of disease control programs among English and Welsh cattle farmers. The field data consisted of interviews conducted with 43 farmers, which were analyzed to investigate the farmers' perception of responsibility for safe cattle produce as well as the intrinsic and extrinsic barriers that inhibited the implementation of a zoonotic control program on their farms. The model was used to illustrate barriers affecting the implementation process and to classify farmers according to their current level of zoonotic control at each stage within the model. Ordinal multivariable logistic regression was used to identify the motivators associated with different levels of implementation. Younger farmers and/or larger herds were more likely to place financial responsibility upon the industry rather than government and all but two farmers accepted a social responsibility for food safety within cattle production. In general, attitudes towards zoonotic control were positive, but approximately half the farmers showed no intent to control and were inhibited by non-supportive social norms and/or a lack of belief in self-efficacy. The remaining farmers showed intent to control, but had not implemented any structured control program due to external barriers including lack of knowledge and both cultural and economic pressure from society and industry. The farmers with no intent to adopt control measures identified their private veterinarian as the preferred motivator, whereas consumer-demand and financial rewards or penalties were significantly associated with farmers who intended to control.

Text in English (article in press)

Eventos / Events

North America Veterinary Conference (NAVAC 2010)

January 16-20, 2010

Orlando, FL, USA

<http://www.tnavc.org/navc-conference/upcoming>

2010 AAVMC Annual Meeting and Educational Symposium

March 11 - 14, 2010

Westin Alexandria, Virginia, USA

http://www.aavmc.org/meetings_events/future_meetings.htm

Symposium on MRSA - MRSA in Animals: an emerging Public and Animal Health problem

March 20, 2010

Columbus, Ohio, USA

<https://vetmedce.osu.edu/ceactivities/conferences/index.cfm?action=coursesview&eventID=38993>

The 2010 International Conference on Biocontainment Facilities

March 25-26, 2010

St. Petersburg, Florida, USA

<http://www.tradelineinc.com/conferences/DE97ABC5-F5CE-5CE6-E018D5C8B3F34F26>

The 26th World Buiatrics Congress

November 14-18, 2010

Santiago, Chile

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Salud Pública Veterinaria
Centro Panamericano de Fiebre Aftosa



Veterinary Public Health
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