



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



La 37º Reunión Ordinaria de la Comisión Sudamericana para la Lucha contra la Fiebre Aftosa - **COSALFA** será realizada en la ciudad de Georgetown, Guyana, en los días **11 y 12 de Mayo de 2010**. La COSALFA está siendo organizada bajo el liderazgo del Centro Panamericano de Fiebre Aftosa (**PANAFTOSA**) de la Organización Panamericana de Salud/ Organización Mundial de Salud (**OPS/OMS**) junto con el **Ministerio de Ganadería de Guyana**.

http://www.panaftosa.org.br/Comp/Eventos/COSALFA_37/espanol/default_e.html

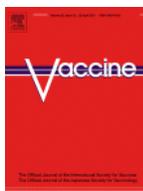
The 37th Ordinary Meeting of the South American Commission for the Fight Against Foot-and-Mouth Disease – **COSALFA** will be held at Guyana, in the city of Georgetown, on May, 11th and 12th, 2010. The COSALFA is organized under the leadership of the Pan American Foot-and-Mouth Disease Center (**PANAFTOSA**) of the Pan American Health Organization/World Health Organization (**PAHO/WHO**) together with the **Ministry of Agriculture of Guyana**.

http://www.panaftosa.org.br/Comp/Eventos/COSALFA_37/english/default_i.html

A 37º Reunião Ordinária da Comissão Sul-Americana para a Luta contra a Febre Aftosa -**COSALFA** será realizada na cidade de Georgetown, Guiana, nos dias **11 e 12 de maio de 2010**. A COSALFA está sendo organizada sob a liderança do Centro Pan-Americano de Febre Aftosa (**PANAFTOSA**) da Organização Pan-Americana da Saúde/Organização Mundial da Saúde (**OPAS/OMS**) juntamente com o **Ministério da Agricultura da Guiana**.

http://www.panaftosa.org.br/Comp/Eventos/COSALFA_37/portugues/default_p.html

Brucellosis / Brucellosis

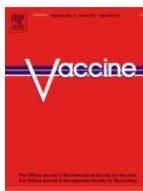


Designing vaccines against cattle brucellosis

Shumilov KV, Sklyarov O, Klimanov A
Vaccine 2010 Mar

The article presents the results from a study of two new vaccines against cattle brucellosis from *Brucella abortus* cultures. One of these is a live dry vaccine prepared from a weakly agglutinogenic strain in the SR form and the second, an inactivated adjuvant vaccine from a non-agglutinogenic strain in the R form. The immunogenic properties of the vaccines were studied in three tests on heifers with infection by a virulent *B. abortus* culture. The vaccines passed the farm-scale testing and were accepted in veterinary practice.

Text in English (article in press)



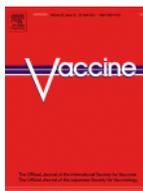
Epidemiological study of Brucellosis in cattle, immunized with *Brucella abortus* RB51 vaccine in endemic zones

Herrera-López E, Suárez-Güemes F, Hernández-Andrade L, Córdova-López D, Díaz-Aparicio E
Vaccine 2010 Mar

In this study the behavior of the *Brucella abortus* RB51 vaccine was evaluated in bovine herds, with different prevalence of Brucellosis. A prospective longitudinal study was made, in two dairies, one of low prevalence (9%) with 538 cows, and the other of high prevalence (15%) with 612 cows. The cattle were vaccinated twice 90 days apart with RB51 at a dose of 1×10^9 cfu/ml. The monthly incidence was determined during 660 days of observation. In the low prevalence dairy, all positive animals were eliminated as soon as they were diagnosed as positive and in this herd the number of new cases decreased to less than 1% between days 120, and day 660. In the dairy with high prevalence, positive cows were not eliminated resulting in the herd increasing its incidence by the end of the first year. Once positive animals were eliminated the incidence diminishes by day 660 to less of 1%. The odds ratio (OR) in the group of cows with abortion history, in the low prevalence dairy, was of 4.5 (1.2; 16.6), in the dairy ranch with high prevalence it presented an OR of 3.6 (1.5; 8.5). The conclusion from this study was that in brucellosis endemic zones, vaccination with RB51 by itself is not enough to control disease. It is mandatory that the initial elimination of all positive cows at the time of vaccination, the continued elimination of all new positive animals be adhered to for long periods of time.

Text in English (article in press)

Fiebre Aftosa / Foot-and-Mouth Disease



Characterization of foot-and-mouth disease virus antigen by surface-enhanced laser desorption ionization-time of flight-mass spectrometry in aqueous and oil-emulsion formulations

Harmsen MM, Jansen J, Westra DF, Coco-Martin JM
Vaccine 2010 Apr; 28 (19): 3363-70

We have used a novel method, surface-enhanced laser desorption ionization-time of flight-mass spectrometry (SELDI-TOF-MS), to characterize foot-and-mouth disease virus (FMDV) vaccine antigens.

Using specific capture with FMDV binding recombinant antibody fragments and tryptic digestion of FMDV antigens the spectral peaks representing the FMDV structural proteins VP1, VP2, VP3 and VP4 were identified. VP1 existed as 2 variants differing by 0.2 kDa and VP4 as 8 variants differing by 14–17 Da. Such heterogeneities have not been reported earlier. They could represent oxidation of VP4 and N-glycosylation of VP1. We also detected FMDV proteolysis upon incubation at elevated temperatures and impurities in FMDV antigen preparations. Finally, we could also characterize FMDV antigen present in emulsions with oil adjuvant by SELDI-TOF-MS. Such FMDV antigen retained the VP4 protein which is known to be specifically present in intact (146S) FMDV particles but absent from specific (12S) degradation products. This indicates that virions do not dissociate upon emulsification.

Text in English



Degradation of foot-and-mouth disease virus during composting of infected pig carcasses

Guan J, Chan M, Grenier C, Brooks BW, Spencer JL, Kranendonk C, Coppins J, Clavijo A
Can J Vet Res. 2010 Jan; 74 (1): 40-4

The objective of this study was to investigate the inactivation and degradation of foot-and-mouth disease (FMD) virus during composting of infected pig carcasses as measured by virus isolation in tissue culture and by real-time reverse transcriptase polymerase chain reaction (RRT-PCR). Three FMD-infected pig carcasses were composted in a mixture of chicken manure and wood shavings in a biocontainment level 3 facility. Compost temperatures had reached 50 degrees C and 70 degrees C by days 10 and 19, respectively. Under these conditions, FMD virus was inactivated in specimens in compost by day 10 and the viral RNA was degraded in skin and internal organ tissues by day 21. In comparison, at ambient temperatures close to 20 degrees C, FMD virus survived to day 10 in the skin tissue specimen from the pig that had the highest initial level of viral RNA in its tissues and the viral RNA persisted to day 21. Similarly, beta-actin mRNA, tested as a PCR control, persisted to day 21 in specimens held at ambient temperatures, but it was degraded in the remnants of tissues recovered from compost on day 21. Results from this study provide evidence that composting could be used for safe disposal of pig carcasses infected with FMD virus.

Text in English

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2801310/pdf/cjvr_01_40.pdf



Foot-and-mouth disease: the question of implementing vaccinal control during an epidemic

Hutber AM, Kitching RP, Fishwick JC, Bires J
Vet J. 2010 Mar

The question of whether or not to use vaccines during an epidemic of foot-and-mouth disease (FMD) has interested veterinary administrators for many decades. This review assesses the historical uses, successes and failures of vaccinal control, and addresses the questions of where, how, and when to use vaccination against FMD. Approaching the problem in this manner can aid in identifying which tools are likely to be most effective during an epidemic, and how successful a given contingency plan might be. The infection status (endemic, semi-endemic, disease-free) of a region has historically mapped where global vaccination has been implemented according to the generality: endemic>semi-endemic>disease-free. More specifically, biomodels and cost-benefit analyses can indicate when vaccination should be implemented for optimal disease control. Finally, numerous local epidemiological factors will provide useful insights into how vaccinal controls can be used effectively.

Text in English (article in press)

Influenza Aviar / Avian Influenza



Spatial and temporal association of outbreaks of H5N1 influenza virus infection in wild birds with the 0°C Isotherm

Reperant LA, Fuckar NS, Osterhaus ADME, Dobson AP, Kuiken T
PLoS Pathog 2010 April; 6 (4): e1000854

Wild bird movements and aggregations following spells of cold weather may have resulted in the spread of highly pathogenic avian influenza virus (HPAIV) H5N1 in Europe during the winter of 2005–2006. Waterbirds are constrained in winter to areas where bodies of water remain unfrozen in order to feed. On the one hand, waterbirds may choose to winter as close as possible to their breeding grounds in order to conserve energy for subsequent reproduction, and may be displaced by cold fronts. On the other hand, waterbirds may choose to winter in regions where adverse weather conditions are rare, and may be slowed by cold fronts upon their journey back to the breeding grounds, which typically starts before the end of winter. Waterbirds will thus tend to aggregate along cold fronts close to the 0°C isotherm during winter, creating conditions that favour HPAIV H5N1 transmission and spread. We determined that the occurrence of outbreaks of HPAIV H5N1 infection in waterbirds in Europe during the winter of 2005–2006 was associated with temperatures close to 0°C. The analysis suggests a significant spatial and temporal association of outbreaks caused by HPAIV H5N1 in wild birds with maximum surface air temperatures of 0°C–2°C on the day of the outbreaks and the two preceding days. At locations where waterbird census data have been collected since 1990, maximum mallard counts occurred when average and maximum surface air temperatures were 0°C and 3°C, respectively. Overall, the abundance of mallards (*Anas platyrhynchos*) and common pochards (*Aythya ferina*) was highest when surface air temperatures were lower than the mean temperatures of the region investigated. The analysis implies that waterbird movements associated with cold weather, and congregation of waterbirds along the 0°C isotherm likely contributed to the spread and geographical distribution of outbreaks of HPAIV H5N1 infection in wild birds in Europe during the winter of 2005–2006.

Text in English

<http://www.plospathogens.org/article/info:doi/10.1371/journal.ppat.1000854>

Inocuidad de los Alimentos / Food Safety



Efficacy of the theory of planned behaviour model in predicting safe food handling practices

Seaman P, Eves A
Food Control 2010 Jul; 21 (7): 983-7

The majority of food-borne disease outbreaks result from malpractice during food preparation in small food businesses. Effective food safety management, including the adoption of safe food handling practices learnt during food safety training programmes, is thus an important strategy to limit incidences of food poisoning. This study explores the impact of basic or foundation level food hygiene training on the attitudes, and intentions of food handlers to conduct safe food handling practices at every occasion. The Theory of Planned Behaviour was used to evaluate the relative impact of different influences on the intentions and self-reported behaviours of 249 food handlers, in hospitality settings. Interviews were also conducted with food handlers, and their managers to seek further insight into the changes in attitude and intent to conduct safe food handling practices after basic or foundation level food hygiene training.

Text in English



Food defense in the global environment: the role of quality standards

Lipp M, Griffiths JC

FoodSafety Magazine 2010 February/March

More than almost anything else, food safety is an issue that touches everyone. Besides being consumers of food, readers of this publication also are involved professionally in the food industry in some capacity—and are thus further vested in a secure food supply. How to ensure food safety is a contentious issue, and, as we are all acutely aware, the solution is not simple.

The reasons are numerous: 1) the reality of the complex, global supply chains in which food is now produced; 2) a disjointed regulatory structure in which multiple agencies govern different areas of food (both in the U.S. and in many other countries); 3) a lack of resources to inspect food imports and overseas manufacturing plants (and even domestic plants); and 4) an absence of widespread adherence to independent quality standards across the food industry.

Text in English

<http://www.foodsafetymagazine.com/article.asp?id=3539&sub=sub1>



Food safety's new regulatory reality: are you prepared?

Oehl F, Floyd D, Fowler A

FoodSafety Magazine 2010 April/May

High-profile cases of contaminated food products, as well as an increasing number of recalls, have sustained an ongoing awareness of—and concern about—the foods that reach America's tables. As a result, food safety has become a growing concern for consumers and industry leaders. It is also a focus of reform for the U.S. government.

With a flurry of changes and new food safety regulations on the horizon, companies have the opportunity to discover more efficient and effective methods of consumer protection. Such discoveries will occur by assessing current activities, building a refocused program and establishing monitoring mechanisms to address the needs of a dynamic food safety program. This article examines some current drivers of food safety regulation, specific sections of bills pending in Congress and recommendations to help companies prepare for coming changes.

Text in English

<http://www.foodsafetymagazine.com/article.asp?id=3605&sub=sub1>



Risks of animal-derived food in a global market – Are we ready for the challenges?

Stärk CDC

The Veterinary J 2010 May; 184 (2): 121-3

Animal-derived food can harbour various health hazards such as toxins or pathogens. Recent examples of food safety incidents (such as the contamination of milk with melamine or pork with dioxin) illustrate the extent of global food chains and the amount of damage that can occur when things go wrong. The management of risk in international, increasingly complex food systems therefore requires special capacity and expertise.

Text in English

[Interface Hombre-Animal / Human-Animal Interface](#)



The human/animal interface: emergence and resurgence of zoonotic infectious diseases

Greger M

Crit Rev Microbiol. 2007; 33 (4): 243-99

Emerging infectious diseases, most of which are considered zoonotic in origin, continue to exact a significant toll on society. The origins of major human infectious diseases are reviewed and the factors underlying disease emergence explored. Anthropogenic changes, largely in land use and agriculture, are implicated in the apparent increased frequency of emergence and re-emergence of zoonoses in recent decades. Special emphasis is placed on the pathogen with likely the greatest zoonotic potential, influenza virus A.

Text in English

http://www.humanesociety.org/assets/pdfs/farm/zoonotic_diseases_emergence_032309.pdf



Human, animal, ecosystem health all key to curbing emerging infectious diseases

Kuehn BM

The Journal of the American Medical Association

JAMA 2010 Jan; 303 (2): 117-8, 124

Strategies that integrate human, animal, and environmental health may help prevent outbreaks of zoonotic diseases, such as 2009 influenza A(H1N1), West Nile virus infection, highly pathogenic avian influenza H5N1, and *Escherichia coli* O157:H7 infection.

Text in English

Leishmaniasis Visceral Canina / Canine Visceral Leishmaniasis



Surveillance of canine visceral leishmaniasis in a disease-free area

Frehse MS, Júnior HG, Ullmann LS, Camossi LG, Machado JG, Langoni H, Biondo AW, Molento MB

Rev Bras Parasitol Vet. 2010 Jan-Mar; 19 (1): 64-6

Leishmaniasis is an important re-emergent parasitosis worldwide, particularly in tropical countries. There are no reports of autochthonous disease in the State of Paraná, southern Brazil. No surveillance has been carried out in the most populated areas such as the city of Curitiba and its surroundings. The purpose of the present study was to determine the seroprevalence of visceral leishmaniasis in dogs at the Center for Zoonosis Control of São José dos Pinhais, Paraná, before euthanasia. Enzyme-linked immunosorbent assay (ELISA) and immunofluorescence antibody test (IFAT) were used to detect antibody levels against *Leishmania* sp. in dog sera. Imprints of the popliteal lymph nodes that were also randomly collected from 50 dogs with suspected clinical signs of visceral leishmaniasis, and evaluated under light microscopy for the detection of amastigote forms, were negative. A total of 364 dog samples were tested. The results showed only one positive sample (0.0027%) by ELISA test but negative by IFAT, however, the dog had no clinical signs. Random surveillance of dog populations from several districts of a metropolitan area may be a means of preventing *Leishmania* spreading. Based on our results, the city of Curitiba and its metropolitan area were considered at low risk for visceral leishmaniasis.

Text in English

http://www.cbpv.com.br/rbpv/documentos/1912010/rbpv_v19n1_a11.pdf

Leptospirosis



Spatial and seasonal analysis on leptospirosis in the municipality of São Paulo, Southeastern Brazil, 1998 to 2006

Soares TS, Latorre Mdo R, Laporta GZ, Buzzar MR
Rev Saude Publica 2010 Apr; 44 (2): 283-91

OBJECTIVE: To analyze the spatial and seasonal distribution of leptospirosis and identify possible ecological and social components of its transmission. **METHODS:** A total of 2,490 cases registered in each district of the municipality of São Paulo, Southeastern Brazil, between 1998 and 2006, were georeferenced. The data were obtained from the Notifiable Diseases Information System. Thematic maps were made, showing the variables of incidence rate, lethality rate, literacy rate, average monthly income, number of residents per household, water supply and sewage system. To identify spatial patterns (dispersed, clustered or random), these variables were analyzed using the global and local Moran indices. Spearman's correlation coefficient was used to test associations between variables with clustered spatial patterns. **RESULTS:** Clustered spatial patterns were observed for the variables of leptospirosis incidence, literacy rate, average monthly income, number of residents per household, water supply and sewage system. There were 773 notified cases in the dry season and 1,717 cases in the rainy season. The incidence and lethality rates correlated with the population's socioeconomic conditions, independently of the period. **CONCLUSIONS:** Leptospirosis is spread throughout the municipality of São Paulo, and its incidence increases during the rainy season. In the dry season, the localities where cases appear coincide with the areas of poorest housing conditions. In the rainy season, it also increases in other districts, probably due to the proximity of rivers and streams.

Text in English

http://www.scielosp.org/pdf/rsp/v44n2/en_08.pdf

Text in Portuguese

<http://www.scielosp.org/pdf/rsp/v44n2/08.pdf>



strategies for diagnosis and treatment of suspected leptospirosis: a cost-benefit analysis

Suputtamongkol Y, Pongtavornpinyo W, Lubell Y, Suttinont C, Hoontrakul S, Phimda K, Losuwanaluk K, Suwancharoen D, Silpasakorn S, Chierakul W, Day N
PLoS Negl Trop Dis. 2010 Feb; 4 (2): e610

BACKGROUND: Symptoms and signs of leptospirosis are non-specific. Several diagnostic tests for leptospirosis are available and in some instances are being used prior to treatment of leptospirosis-suspected patients. There is therefore a need to evaluate the cost-effectiveness of the different treatment strategies in order to avoid misuse of scarce resources and ensure best possible health outcomes for patients. **METHODS:** The study population was adult patients, presented with uncomplicated acute febrile illness, without an obvious focus of infection or malaria or typical dengue infection. We compared the cost and effectiveness of 5 management strategies: 1) no patients tested or given antibiotic treatment; 2) all patients given empirical doxycycline treatment; patients given doxycycline when a patient is tested positive for leptospirosis using: 3) lateral flow; 4) MCAT; 5) latex test. The framework used is a cost-benefit analysis, accounting for all direct medical costs in diagnosing and treating patients suspected of leptospirosis. Outcomes are measured in length of fever after treatment which is then converted to productivity losses to capture the full economic costs. **FINDINGS:** Empirical doxycycline treatment was the most efficient strategy, being both the least costly alternative and the one that resulted in the shortest duration of fever. The limited sensitivity of all three diagnostic tests implied that their use to guide treatment was not cost-effective. The most influential parameter driving these results was the cost of treating patients with complications for patients who did not receive adequate treatment as a result of incorrect diagnosis or a strategy of no-antibiotic-treatment. **CONCLUSIONS:** Clinicians should continue treating suspected cases of leptospirosis on an empirical basis. This conclusion holds true as long as policy makers are not prioritizing the reduction of use of antibiotics, in which case the use of the latex test would be the most efficient strategy.

Text in English

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2826401/pdf/pntd.0000610.pdf>

Rabia / Rabies



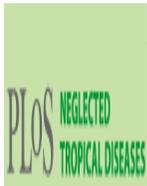
The immune response to rabies virus infection and vaccination

Johnson N, Cunningham AF, Fooks AR

Vaccine 2010 Apr

Infection with rabies virus causes encephalitis in humans that has a case fatality rate of almost 100%. This inability to resolve infection is surprising since both pre-exposure vaccination and, if given promptly, post-exposure vaccination is highly effective at preventing encephalitic disease. The principal immunological correlate of protection produced by vaccination is neutralizing antibody. T-helper cells contribute to the development of immunity whereas cytotoxic T cells do not appear to play a role in protection and may actually be detrimental to the host. One reason for a failure to protect in humans may be the poor immunological response the virus provokes, despite the period between exposure to virus and the development of disease being measured in months. Few individuals have measurable neutralizing antibody on presentation with disease, although in many cases this develops as symptoms become more severe. Furthermore, when antibody is detected in serum it rarely appears in cerebrospinal fluid suggesting limited penetration into the CNS, the site where it is most needed. The role of the modest mononuclear cell infiltrate into the brain parenchyma is unclear. Some studies suggest the virus can suppress cell-mediated immunity early during the infection although there is little mechanistic evidence to support this beyond suppression of intracellular interferon production by the viral phosphoprotein. In contrast, levels of antibody in the CNS correlate to the peak virus production within the CNS. Here we review the current understanding of immune responses to rabies infection and vaccination against this disease. This article identifies a need to understand how rabies antigens are initially presented and how this can influence the subsequent development of antibody responses. This could help identify ways in which the response to prophylactic vaccination can be enhanced and how the natural immune response to infection can be boosted to combat neuroinvasion.

Text in English (article in press)



Rabies in the 21 century

Wunner WH, Briggs DJ

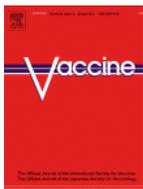
PLoS Negl Trop Dis. 2010 Mar; 4 (3): e591

Why are 50,000–55,000 people dying from rabies worldwide each year, with 25,000–30,000 human deaths in India alone and over 3 billion people continuing to be at risk of rabies virus infection in over 100 countries in the 21st century?

Text in English

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2846934/pdf/pntd.0000591.pdf>

Vacunas-Costo-efectividad / Vaccines-Cost-effectiveness



A comparison of the use of economics in vaccine expert reviews

Jacobs P, Ohinmaa A

Vaccine 2010 Apr; 28 (16): 2841-45

We reviewed how health economics has been included in the vaccine expert review processes in a

sample of countries. We identified two kinds of review processes – those in which vaccines and drugs are assessed using a common process, and those in which vaccines are assessed within the infectious disease framework. In either process, the countries recommend that their national pharmaco-economic (i.e., guidelines developed for drugs) guidelines be used to conduct the studies, although the guidelines themselves differ between countries. As a result of these factors, the decision process and the study outcomes can differ between countries, but because the vaccine adoption process includes other criteria as well, economic factors will not necessarily alter the outcome.

Text in English

Eventos / Events

CAVEPM 2010 Conference

May 26 – June 2, 2010

Guelph, Ontário, Canada

<http://www.ovc.uoguelph.ca/cavepm/index.cfm>

Cell Symposia: Influenza: Translating basic insights

2-4 December, 2010

Washington D.C., USA

<http://www.cell-symposia-influenza.com/>



Salud Pública Veterinaria
Centro Panamericano de Fiebre Aftosa



Veterinary Public Health
Pan American Foot and Mouth Disease Center

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