



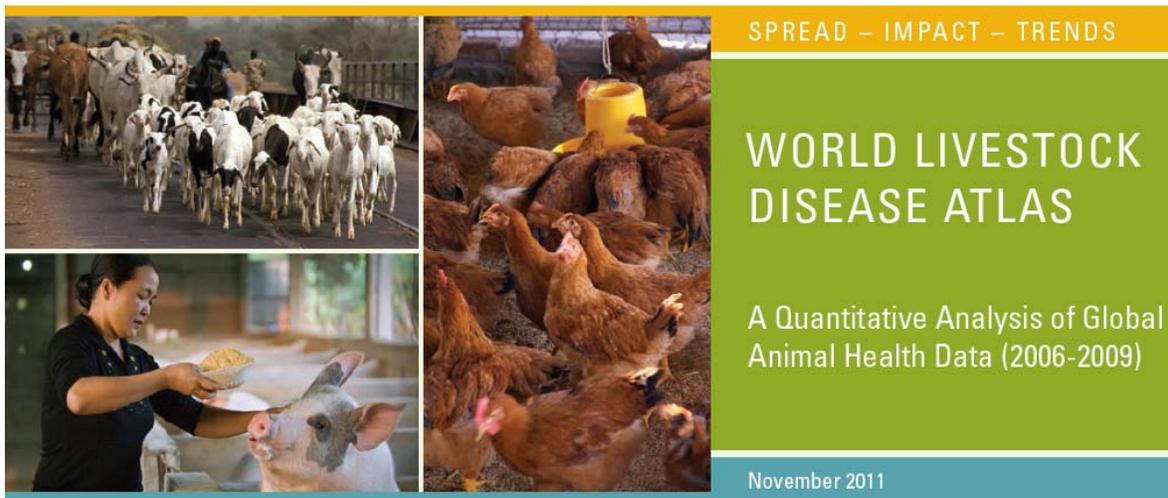
## Centro de Documentación / Documentation Center

### 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



Which livestock diseases cause the heaviest losses globally? Which countries and economies suffer the worst disease-related losses among their livestock populations? Which livestock species are most affected by diseases? Having the answers to these questions available as reference to inform policy making, investment planning, and decision making about disease control strategies is vitally important. Yet while there is no shortage of opinions and beliefs, hard facts are difficult to find. Most studies on the spread of livestock diseases and the losses caused by them are strictly limited in scope. Most examine a small, discrete number of diseases or species and do so at a single given point in time. Some examine just one. The prevailing lack of aggregated data across all these dimensions makes comparisons impossible to render.

The World Bank and the International Forum for Transmissible Animal Diseases and Food Safety (TAFS), in partnership with the World Organisation for Animal Health (OIE) and the UN Food and Agriculture Organization (FAO) produced this atlas to illustrate the best available data on livestock diseases around the world.

<http://www.tafsforum.org/livestock-disease-atlas.html>

## **Brucellosis / Brucellosis**



### **Comparison of four commercial IgM and IgG ELISA kits for diagnosing brucellosis**

Fadeel MA, Hoffmaster AR, Shi J, Pimentel G, Stoddard RA  
J Med Microbiol. 2011 Dec; 60 (Pt 12): 1767-73

Brucellosis is a worldwide zoonotic disease that often requires serology for diagnosis. The serum agglutination test is the gold standard assay, but ELISAs are used by many laboratories. Many commercial ELISAs are available, but few studies have compared their performance. This study compared the ability of four commercially available ELISA kits (from Bio-Quant, Immuno-Biological Laboratories - America, Vircell and Euroimmun) to diagnose brucellosis in patients from Egypt and the USA. The sensitivities for all kits tested, except the Vircell kit, were >90%, whilst the specificities were variable, with the Bio-Quant assay having a specificity of <40%. Detection of IgG antibody was more sensitive than detection of IgM antibody for diagnosing brucellosis cases, but the specificity was comparable. Overall, there was good agreement between all of the kits except for the Bio-Quant kit. None of the diagnostic assays was 100% reliable for diagnosing brucellosis; therefore, serology results need to be considered in tandem with patient history, clinical signs and other test results.

**Text in English**

## **Enfermedad de Chagas / Chagas Disease**



### **Congenital chagas disease: recommendations for diagnosis, treatment and control of newborns, siblings and pregnant women**

Carlier Y, Torrico F, Sosa-Estani S, Russomando G, Luquetti A, Freilij H, Albajar Vinas P  
PLoS Negl Trop Dis. 2011 Oct; 5 (10): e1250

In May 2010, the sixty-third World Health Assembly adopted resolution WHA63.20 on the control and elimination of Chagas disease, highlighting the need "to promote the development of public health measures in disease-endemic and disease non-endemic countries, with special focus on endemic areas, for the early diagnosis of congenital transmission and management of cases". This article summarizes the recommendations of the Technical Group IVa on "Prevention and Control of Congenital Transmission and Case Management of Congenital Infections" of the World Health Organization's Programme on Control of Chagas disease (infection with *Trypanosoma cruzi*).

**Text in English**

<http://www.plosntds.org/article/info%3Adoi%2F10.1371%2Fjournal.pntd.0001250>

## **Enfermedades Desatendidas / Neglected Diseases**



## The field-testing of a novel integrated mapping protocol for neglected tropical diseases

Pelletreau S , Nyaku M , Dembele M , Sarr B , Budge P , Ross R , Mathieu E  
PLoS Negl Trop Dis. 2011; 5 (11): e1380

### Background

Vertical control and elimination programs focused on specific neglected tropical diseases (NTDs) can achieve notable success by reducing the prevalence and intensity of infection. However, many NTD-endemic countries have not been able to launch or scale-up programs because they lack the necessary baseline data for planning and advocacy. Each NTD program has its own mapping guidelines to collect missing data. Where geographic overlap among NTDs exists, an integrated mapping approach could result in significant resource savings. We developed and field-tested an innovative integrated NTD mapping protocol (Integrated Threshold Mapping (ITM) Methodology) for lymphatic filariasis (LF), trachoma, schistosomiasis and soil-transmitted helminths (STH).

### Methodology/Principal Findings

The protocol is designed to be resource-efficient, and its specific purpose is to determine whether a threshold to trigger public health interventions in an implementation unit has been attained. The protocol relies on World Health Organization (WHO) recommended indicators in the disease-specific age groups. For each disease, the sampling frame was the district, but for schistosomiasis, the sub-district rather than the ecological zone was used. We tested the protocol by comparing it to current WHO mapping methodologies for each of the targeted diseases in one district each in Mali and Senegal. Results were compared in terms of public health intervention, and feasibility, including cost. In this study, the ITM methodology reached the same conclusions as the WHO methodologies regarding the initiation of public health interventions for trachoma, LF and STH, but resulted in more targeted intervention recommendations for schistosomiasis. ITM was practical, feasible and demonstrated an overall cost saving compared with the standard, non-integrated, WHO methodologies.

### Conclusions/Significance

This integrated mapping tool could facilitate the implementation of much-needed programs in endemic countries.

### Text in English

<http://www.plosntds.org/article/info%3Adoi%2F10.1371%2Fjournal.pntd.0001380>

## Fiebre Aftosa / Foot and Mouth Disease



VIROLOGY JOURNAL

### An overview on ELISA techniques for FMD

Ma LN, Zhang J, Chen HT, Zhou JH, Ding YZ, Liu YS  
Virol J. 2011 Sep; 8: 419

**BACKGROUND:** FMD is one of the major causes of economic loss of cloven-hoofed animals in the world today. The assessment of dominant genotype/lineage and prevalent trends and confirmation the presence of infection or vaccination not only provides scientific basis and first-hand information for appropriate control measure but also for disease eradication and regaining FMD free status following an outbreak. Although different biological and serological approaches are still applied to study this disease, ELISA test based on the distinct format, antigen type and specific antibody reinforce its predominance in different research areas of FMD, and this may replace the traditional methods in the near future. This review gives comprehensive insight on ELISA currently available for typing, antigenic analysis, vaccination status differentiation and surveillance vaccine purity and content at all stages of manufacture in FMDV. Besides, some viewpoint about the recent advances and trends of ELISA reagent for FMD are described here.

**METHODS:** More than 100 studies regarding ELISA method available for FMD diagnosis, antigenic

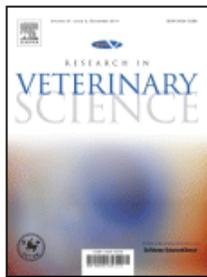
analysis and monitor were thoroughly reviewed. We investigated previous sagacious results of these tests on their sensitivity, specificity.

**RESULTS:** We found that in all ELISA formats for FMD, antibody-trapping and competitive ELISAs have high specificity and RT-PCR (oligoprobing) ELISA has extra sensitivity. A panel of monoclonal antibodies to different sites or monoclonal antibody in combination of antiserum is the most suitable combination of antibodies in ELISA for FMD. Even though from its beginning, 3ABC is proven to be best performance in many studies, no single NSP can differentiate infected from vaccinated animals with complete confidence. Meanwhile, recombinant antigens and peptide derived from FMDV NPs, and NSPs have been developed for use as an alternative to the inactivated virus antigen for security.

**CONCLUSIONS:** There is a need of target protein, which accurately determines the susceptible animal status based on the simple, fast and reliable routine laboratory test. A further alternative based on virus-like particle (VLP, also called empty capsids) in combination of high throughput antibody technique (Phage antibody library/antibody microarray) may be the powerful ELISA diagnostic reagents in future.

**Text in English**

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3180423/pdf/1743-422X-8-419.pdf>



**Clinical protection, sub-clinical infection and persistence following vaccination with extinction payloads of O(1) Manisa foot-and-mouth disease monovalent vaccine and challenge in goats and comparison with sheep**

Madhanmohan M, Nagendrakumar SB, Kumar R, Anilkumar J, Manikumar K, Yuvaraj S, Srinivasan VA  
Res Vet Sci. 2011 Nov

Small ruminants play an important role in the epidemiology of Foot-and-Mouth Disease (FMD). Small ruminants are vaccinated with one-half or one-third of cattle dose of oil-based or aqueous vaccines respectively. The extinction antigen payload in vaccine for protection in small ruminants is poorly studied. FMD seronegative Nellore sheep (n=30) and Osmanabadi goats (n=30) were vaccinated with different payloads of O(1) Manisa vaccine (0.45-5µg). Vaccinated and sero-negative unvaccinated sheep (n=6) and goats (n=6) were challenged intradermally into the coronary band with O(1) Manisa virus. The sheep and goats were monitored for signs of FMD and samples were collected for measuring viraemia and virus associated with nasal swabs and probang samples. Clotted blood was collected for serology. Vaccines containing antigen payload up to 0.94µg protected sheep and goats against challenge. Sheep and goats vaccinated with 0.45µg antigen payload were poorly protected against challenge. An antigen payload of 0.94µg was sufficient to offer complete protection and also absence of carrier status. Sheep and goats with no vaccination or with poor sero conversion to vaccination showed sub-clinical infection and became carriers. The results of the study suggest that vaccination offers protection from clinical disease even at a low payload of 0.94µg and hence one-half of cattle dose of the oil-based vaccine formulations is sufficient to induce protective immune response in sheep and goats. Since no live virus could be isolated after 5days post challenge from the nasal swab or probang samples even though viral RNA was detected, the risk of these animals transmitting disease was probably very low.

**Text in English (article in press)**



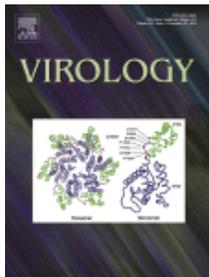
**Validation of an r3AB1-FMDV-NSP ELISA to distinguish between cattle infected and vaccinated with foot-and-mouth disease virus**

Jaworski JP, Compaired D, Trotta M, Perez M, Trono K, Fondevila N  
J Virol Methods. 2011 Dec; 178 (1-2): 191-200

Foot-and-mouth disease (FMD) is a highly contagious disease of cloven-hoofed livestock which has a drastic economic impact for affected countries. Although FMDV is distributed worldwide, many regional programs have been effective eradicating this agent. In Argentina, as in many other regions of South America, the combination of a systematic vaccination plan, together with an effective detection system capable of differentiating infection from vaccination, has been successful for eradicating this agent from the country. The properties of recombinant 3AB1 FMDV non-structural protein (r3AB1 FMDV-NSP), as a marker for the detection of antibodies to differentiate between cattle infected and vaccinated with FMDV, have been described previously. The goal of the present study was to validate the 3AB1 ELISA using a well characterized serum panel from Argentina (n=559) including eight national and one international reference sera. Overall, the 3AB1 ELISA demonstrated good feasibility, repeatability, reproducibility, analytical sensitivity and specificity, and accuracy. The results from the 3AB1 ELISA when compared with those obtained from the OIE index test (NCPanaftosa screening) showed a similar performance of both tests [diagnostic sensitivity=84% (C.I.=79-88%) and 80% (C.I.=75-85%), respectively; and diagnostic specificity=98.6% (C.I.=97-100%) and 95% (C.I.=91-98%), respectively]. The present work proposes the 3AB1 ELISA as an alternative to imported kits for FMD internal screening and transboundary sero-surveillance.

**Text in English**

### **Influenza Aviar / Avian Influenza**



#### **Differential microRNA expression and virulence of avian, 1918 reassortant, and reconstructed 1918 influenza A viruses**

Li Y, Li J, Belisle S, Baskin CR, Tumpey TM, Katze MG  
Virology 2011 Dec 20; 421 (2): 105-13

Infections with highly pathogenic H5N1 avian (HPAI) and 1918 pandemic H1N1 influenza viruses cause uncontrolled local and systemic inflammation. The mechanism for this response is poorly understood, despite its importance as a determinant of virulence. Therefore we profiled cellular microRNAs of lung tissue from cynomolgus macaques (*Macaca fascicularis*) infected with a HPAI and a less pathogenic 1918 H1N1 reassortant virus to understand microRNA contribution to host response. We identified 23 microRNAs associated with the extreme virulence of HPAI, with expression patterns inversely correlated with that of predicted gene targets. Pathway analyses confirmed that these targets were associated with aberrant and uncontrolled inflammatory responses and increased cell death. Importantly, similar microRNAs were associated with lethal 1918 pandemic virus infections in mice. This study suggests that virulence of highly pathogenic influenza viruses may be mediated in part by cellular microRNA through dysregulation of genes critical to the inflammatory process.

**Text in English**

### **Inocuidad de los Alimentos / Food Safety**



#### **Health benefits and possible risks of broccoli - An overview**

Latté KP, Appel KE, Lampen A  
Food Chem Toxicol. 2011 Dec; 49 (12): 3287-3309

Chemopreventive effects of broccoli, a highly valued vegetable, have been known for a long time. Several studies have demonstrated that broccoli might be beneficial for patients suffering from certain forms of cancer. These effects are generally attributed to glucosinolate-derived degradation products like isothiocyanates and indoles which are formed by the hydrolytic action of plant myrosinase and/or glucosidases deriving from the human microbial flora. However, recent in vitro and experimental animal studies indicate that broccoli, its extracts and the glucosinolate-derived degradation products might also have undesirable effects, especially genotoxic activities. However, the relevance of the genotoxic activities to human health is not known yet. This paper gives an overview on genotoxic, anti-genotoxic/chemopreventive, nutritive and antinutritive properties of broccoli, its ingredients and their degradation products. A qualitative comparison of the benefit and risk of broccoli consumption benefit-risk assessment shows that the benefit from intake in modest quantities and in processed form outweighs potential risks. For other preparations (fortified broccoli-based dietary supplements, diets with extraordinary high daily intake, consumption as a raw vegetable) further studies both for potential risks and beneficial effects are needed in order to assess the benefit and risk in the future.

### Text in English



### Infants exposure to aflatoxin M<sub>1</sub> as a novel foodborne zoonosis

EI-Tras WF, EI-Kady NN, Tayel AA  
Food Chem Toxicol. 2011 Nov; 49 (11): 2816-9

Occurrence of aflatoxin M(1) (AFM(1)) in infant formula milk powder (IFMP) and maternal breast milk (MBM) was investigated as a risk factor affects the health of newborns in Egypt. A total of 125 IFMP and 125 MBM samples were collected and examined for the presence of AFM(1) using competitive ELISA test. The results indicated that the relative risk (RR) of exposure to AFM(1) via consumption of MBM was higher than IFMP (RR; 1.6, 95%CI; 1.28-2.03, p=0.0001). The mean concentrations of AFM(1) were significantly differed (p<0.0001) between MBM (74.413 ± 7.070 ng/l) and IFMP (9.796 ± 1.036 ng/l). High frequency distributions were detected within the range of 5-25 ng/l and >50-100 ng/l in IFMP and MBM, respectively. The average daily exposure of newborns to AFM(1) via consumption of MBM and IFMP was 52.684 and 8.170 ng, respectively, with a significant difference at p<0.0001. Consumption of raw milk by lactating mothers exhibited a significant correlation (p<0.0001) with the presence of AFM(1) in their milk. In conclusion, this work established a pioneering concept that AFM(1) may be considered as an etiological factor for a novel foodborne zoonosis identified as Aflatoxicosis M(1).

### Text in English

### Leishmaniasis



### Risk factors for Leishmania chagasi infection in an endemic area in Raposa, State of Maranhão, Brazil

Ponte CB, Souza NC, Cavalcante MN, Barral AM, Aquino DM, Caldas AD  
Rev Soc Bras Med Trop. 2011 Nov

**INTRODUCTION:** Infection with *Leishmania chagasi* is the most common clinical presentation for visceral leishmaniasis in endemic areas. The municipality of Raposa is an endemic area in State of Maranhão, Brazil, and have had registration cases of visceral leishmaniasis disease. For this reason, a cross-

sectional study was conducted to evaluate the risk factors for infection with *L. chagasi* detected by Montenegro skin test.

**METHODS:** The sample comprised 96% of the inhabitants of the villages of Maresia, Pantoja, and Marisol located in the municipality of Raposa, corresponding to 1,359 subjects. Data were collected using a questionnaire. Univariate and multivariate logistic regression models were applied to evaluate the association between the variables studied and infection of *L. chagasi*.

**RESULTS:** The variables associated with infection upon nonadjusted analysis were a straw roof, mud walls, floors of beaten earth, presence of sand flies inside or outside of the dwelling, and bathing outdoors. Adjusted analysis showed that the presence of sand flies inside/outside the dwelling was a risk factor, and age younger than 10 years was a protective factor against asymptomatic infection.

**CONCLUSIONS:** The results highlight the extent to which precarious living conditions of the population strengthen the epidemiological chain of visceral leishmaniasis.

**Text in English (article in press)**

[http://www.scielo.br/pdf/rsbmt/2011nahead/aop57\\_2011.pdf](http://www.scielo.br/pdf/rsbmt/2011nahead/aop57_2011.pdf)

## Rabia / Rabies

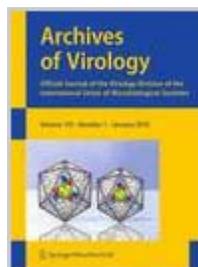


### Evaluation of ELISA for detection of rabies antibodies in domestic carnivores

Wasniewski M, Cliquet F  
J Virol Methods 2011 Nov

Serological tests of pets have increased as many rabies-free countries have amended their quarantine measures and adopted a scheme requiring rabies vaccination followed by a serological test. A European directive requires the measurement of neutralising antibodies as proof of protection to allow the free movement of pets within the European Union and between third countries non listed in the list C of regulation 998/2003 and European countries. At present, the recommended neutralisation tests (FAVN test or RFFIT) are time-consuming, expensive and require highly trained technicians as well as special laboratory facilities. The rabies ELISA designed by BioPro was developed initially for use for field samples from foxes to check the efficacy of oral vaccination campaigns in Europe. In this study, the specificity, sensitivity and reliability of this commercial rabies ELISA was evaluated for testing sera from dogs and cats involved in international trade. The specificity evaluated in 315 unvaccinated animals was 100%. Concordance of 86.2% was obtained when comparing BioPro ELISA to the gold standard FAVN test in 701 samples from vaccinated dogs and cats. The rabies ELISA developed recently can be considered a valuable method for the assessment of rabies antibodies in vaccinated domestic carnivores in combination with neutralisation tests.

**Text in English (article in press)**



### Rabies in southeast Brazil: a change in the epidemiological pattern

Queiroz LH, Favoretto SR, Cunha EM, Campos AC, Lopes MC, de Carvalho C, Iamamoto K, Araújo DB, Venditti LL, Ribeiro ES, Pedro WA, Durigon EL  
Arch Virol. 2011 Oct

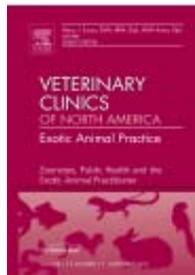
This epidemiological study was conducted using antigenic and genetic characterisation of rabies virus isolates obtained from different animal species in the southeast of Brazil from 1993 to 2007. An alteration in the epidemiological profile was observed. One hundred two samples were tested using a

panel of eight monoclonal antibodies, and 94 were genetically characterised by sequencing the nucleoprotein gene. From 1993 to 1997, antigenic variant 2 (AgV-2), related to a rabies virus maintained in dog populations, was responsible for rabies cases in dogs, cats, cattle and horses. Antigenic variant 3 (AgV-3), associated with *Desmodus rotundus*, was detected in a few cattle samples from rural areas. From 1998 to 2007, rabies virus was detected in bats and urban pets, and four distinct variants were identified. A nucleotide similarity analysis resulted in two primary groups comprising the dog and bat antigenic variants and showing the distinct endemic cycles maintained in the different animal species in this region.

**Text in English (article in press)**

<http://www.springerlink.com/content/515847n142r14n32/>

**Zoonosis / Zoonoses**



**One Health: zoonoses in the exotic animal practice**

Souza MJ

Vet Clin North Am Exot Anim Pract. 2011; 14 (3): 421-6

Zoonoses make up approximately  $\frac{3}{4}$  of today's emerging infectious diseases; many of these zoonoses come from exotic pets and wildlife. Recent outbreaks in humans associated with nondomestic animals include Sudden Acute Respiratory Syndrome, Ebola virus, salmonellosis, and monkeypox. Expanding human populations, increased exotic pet ownership and changes in climate may contribute to increased incidence of zoonoses. Education and preventive medicine practices can be applied by veterinarians and other health professionals to reduce the risk of contracting a zoonotic disease. The health of humans, animals, and the environment must be treated as a whole to prevent the transmission of zoonoses.

**Text in English**

**Eventos / Events**

Rabies Postexposure Prophylaxis (PEP)

Basics:



**Announcements**

**Rabies Postexposure Prophylaxis Online Course**

This online course is designed to educate healthcare providers and public health professionals about rabies, the approach used in evaluating patients for rabies virus exposure, and the administration of rabies postexposure prophylaxis (PEP) as recommended by the Advisory Committee on Immunization Practices (ACIP).

This course was developed as a collaboration of the Centers for Disease Control and Prevention (CDC) and the Maryland Department of Health and Mental Hygiene. Assistance was also provided by Montgomery County Department of Health and Human Services, and Suburban Hospital-Johns Hopkins Medicine.

<http://ideha.dhmm.maryland.gov/training/rabies/start.html>



Salud Pública Veterinaria  
Centro Panamericano de Fiebre Aftosa



Veterinary Public Health  
Pan American Foot and Mouth Disease Center

**Centro de Documentación / Documentation Center (CEDOC)**

**Teléfono / Phone:** 55 21 3661-9045

<http://new.paho.org/panaftosa>

<http://bvs.panaftosa.org.br>

<http://bvs.panalimentos.org>

Se puede tener acceso a las publicaciones en el link citado bajo los resúmenes o solicitarlas a nuestro Centro de Documentación a través del correo electrónico.

It's possible to have access to publications in the mentioned link under the summaries or to ask our Documentation Center for them via e-mail.

[apimente@paho.org](mailto:apimente@paho.org)