



CEDOC INFORMATIVO / NEWSLETTER

N. 2 – Julio / July 2007

Centro de Documentación / Documentation Center

Objetivos

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.

Objectives

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.



**Centro Panamericano de Fiebre Aftosa
Unidad de Salud Pública Veterinaria – OPS/OMS**



**Pan American Foot and Mouth Disease Center
Veterinary Public Health Unit – PAHO/WHO**



"Working together to make rabies history!" This is the slogan for the first World Rabies Day to be held on 8 September 2007. The World Rabies Day initiative is a global rabies awareness campaign to spread the word about rabies prevention. PAHO is a co-sponsor for this event, along with many national and international partners.

The **mission** of World Rabies Day is to raise awareness about the impact of human and animal rabies, how easy it is to prevent it, and how to eliminate the main global sources. Even though the major impact of rabies occurs in regions of the world where many needs are present, rabies should no longer be neglected. The tools and technology for human rabies prevention and dog rabies elimination are available.

Text in Spanish

<http://www.paho.org/spanish/ad/dpc/vp/wrd-2007.htm>

Text in English

<http://www.paho.org/English/AD/DPC/VP/wrd-2007.htm>

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apimente@panaftosa.ops-oms.org

Brucellosis Bovina / Bovine Brucellosis



Evaluation of the ring test in an epidemiological surveillance of bovine brucellosis in herds and dairies

Silva Júnior FF; Megid J; Nozaki CN;

Pinto JPAN

Arq Bras Med Vet Zootec. 2007;59 (2): 295-300

The ring test (RT) was analyzed regarding its application for the individual and herd bovine brucellosis diagnoses. Individual samples of milk from 464 cows and 54 composite samples of milk bucket from these animals were evaluated. The results were analyzed considering the serological results obtained by the rose bengal (RBT), tube agglutination (TAT) and 2-mercaptoethanol (2-ME) tests. From the 464 individual milk samples analyzed by the RT, 123 (26.5%) presented positive results. From those, 30 were positive only to the RBT, 28 by the RBT/TAT/2-ME and 18 by the TAT. From the 123 positive samples by the RT, 95 came from the 2-ME seronegative animals,

characterizing 77.2% of false-positive reactions and 4/341 negative reactions came from the seropositive animals, characterizing 1.2% of false-negative reactions in the individual RT. From the 54 samples of composite milk analyzed by the RT, 17 were positive. From these positive samples, one was considered false positive since all the animals that composed it were negative by the 2-ME. Three of the composite milk samples that were negative to RT (3/37) were constituted by milk from positive animals, characterizing 8.1% of false-negative results by the RT. The individual RT showed high percentage of false-positive results, while the RT in samples from bucket detected 84.2% of the contaminated milk and 75% of the infected herds.

Text in Portuguese

<http://www.scielo.br/pdf/abmvz/v59n2/04.pdf>

Estadística / Statistics



Health Statistics from the Americas 2006

PAHO, 2006

Health Statistics from the Americas, 2006 Edition is the sixth in a series begun in 1991 to complement the quadrennial publication Health in the Americas. This is the second edition to be produced only in an electronic format, and includes a special topic on the ten leading causes of death in 31 countries of the Americas.

Text in Spanish

<http://www.paho.org/spanish/dd/ais/HSA2006.htm>

Text in English

<http://www.paho.org/English/DD/AIS/HSA2006.htm>



World Health Statistics 2007

WHO, 2007

World health statistics 2007 presents the most recent health statistics for WHO's 193 Member States. This third edition includes a section with 10 highlights of global health statistics for the past year as well as an expanded set of 50 health statistics.

World Health Statistics 2007 has been collated from publications and databases produced by WHO's technical programmes and regional offices. The core set of indicators was selected on the basis of their relevance to global health, the availability and quality of the data, and the accuracy and comparability of estimates. The statistics for the indicators are derived from an interactive process of data collection, compilation, quality assessment and estimation occurring among WHO's technical programmes and its Member States. During this process, WHO strives to maximize the accessibility, accuracy, comparability and transparency of health statistics.

Text in English

<http://www.who.int/whosis/whostat2007.pdf>

Fiebre Aftosa / Foot-and-Mouth Disease



Epidemiologic Aspects of a Foot-and-Mouth Disease Epidemic in Cattle in Ecuador

Lindholm A, Hewitt E, Torres P, Lasso

M, Echeverria C, Shaw J, Hernandez J

Intern J Appl Res Vet Med. 2007; 5 (1): 17-24

A case-control study was conducted to identify herd-level risk factors associated with foot-and-mouth disease (FMD) in Ecuador. Case herds were those with presence of cattle with clinical signs of FMD and that tested positive for FMD virus during the epidemic of 2002 (n=39). Control farms (n=78) were selected randomly from a list of farms without a history of FMD. All study farms were visited, and managers were

interviewed to complete an epidemiologic questionnaire. Feedlot operations, purchase of livestock at markets, and close proximity to markets or slaughter facilities were identified as risk factors for FMD ($P < 0.01$). In addition to systematic vaccination of the national herd, we recommend allocation of funds for ring-vaccination of cattle herds in close proximity to markets or slaughter facilities, and to enforce movement of vaccinated-cattle only to help control and prevent new epidemics of FMD.

Text in English

http://www.jarvm.com/articles/Vol5Iss1/Vol5Iss1Hernandez17_24.pdf



Foot-and-mouth disease - Quantification and size distribution of airborne particles emitted by healthy and infected pigs

Gloster J, Williams P, Doel C, Esteves I, Coe H, Valarcher JF

Vet J. 2007 Jul;174 (1): 42-53

There is strong evidence to suggest that foot-and-mouth disease (FMD) can be transmitted by airborne virus up to many kilometres from a virus source. Atmospheric dispersion models are often used to predict where this disease might spread. This study investigated whether FMD virus (FMDV) aerosol has specific characteristics which need to be taken into consideration in these models. The characteristics and infectiousness of particles emitted by 12 pigs have been studied pre- and post-infection with O UKG 2001 FMDV. Aerosol generated by individual pigs was found log normally distributed in the range 0.015-20.0µm with concentrations between 1000 and 10000cm⁻³ at the smallest size and <1cm⁻³ above 10µm. No differences in either the total number of particles produced or their size distribution were detected between uninfected and infected pigs. However, a correlation between aerosol concentration and animal activity was found with a more active pig producing significantly greater concentrations than those that were less active. Viable virus was found up to a maximum of 6.3 log TCID₅₀/24h/animal. The virus was distributed almost equally across the three size ranges; <3, 3-6 and >6µm. No correlation could be established between the production of virus and animal activity. In general the production of airborne virus closely followed the detection of viraemia in the blood and the presence of clinical symptoms. However, in one instance a pig excreted as much airborne virus as the other animals in the study, but with less virus detected in its blood. The results suggest that there is little merit in including a sophisticated virus release pattern based on physical activity periods or FMDV aerosol size spectrum, together with the appropriate dry deposition calculations, in models used to predict airborne spread of FMD. An estimate of the total daily virus production based on the clinical assessment of disease and virus strain is sufficient as input.

Text in English

Influenza Aviar / Avian Influenza



Technical Meeting on Highly Pathogenic Avian Influenza and Human H5N1; 2007 Jun 27-29; Rome, Italy. Rome: FAO; 2007

The objectives of the technical meeting:

1) Review the best available scientific, technical and operational evidence to date on the nature of HPAI, and H5N1 infection in humans and for its prevention and control, and provide an authoritative assessment of risk; 2) Provide strategic guidance to partners on technical and policy options for cost-effective and cost-efficient measures for the effective prevention and control of highly pathogenic avian influenza in poultry and associated human infections; 3) Identify the current state of pandemic influenza preparedness in the context of H5N1 human infections; 4) Identify and build consensus on geographical and thematic priorities and key constraints that need to be overcome, in the immediate, medium, and longer term, to effectively address highly pathogenic avian influenza in poultry and associated human infection.

Collected Summaries of Background Papers:

Text in English

<http://www.fao.org/avianflu/en/conferences/june2007/documents/Summary.pdf>

Inocuidad de los Alimentos / Food Safety



Innocuity and quality: essential requirements for consumer health protection

Arispe I; Tapia MS
Agroalimentaria 2007; 24: 105-17

Food innocuity is a fundamental aspect of public health and an essential element to manage of total quality, for which it is a subject of the highest priority for all countries and governments. In Venezuela, this subject requires the greatest attention due to the health implications, which reach all levels of the population. Also, due to the economic implications that imply the fulfillment of the obligatory and voluntary normative framework related to quality and the food safety for national businesses. Finally, due to the commercial implications of fulfilling the framework that affects business competition and establishes distinctions in terms of quality and innocuity management and integrated management. The present work gives a referential framework to the discussion of these aspects that are of great importance to the agriculture industry and the Venezuelan consumer.

Text in Spanish

http://www.saber.ula.ve/db/ssaber/Edocs/centros_investigacion/ciaal/agroalimentaria/anum24/articulo8.pdf



Normative environments, quality management and food innocuity: an integral vision

Mercado CE
Agroalimentaria 2007; 24: 119-31

The food crisis of the 1990's and the increase in transmittable diseases from foods, pointed out the difficulty for sanitary control systems to confront demographic changes, consumption and intensive production techniques, transformation and food conservation. This caused a change in food innocuity from a posteriori approach to a reactive and punitive one in order to prevent and reduce the long term risk of the food Caín. To guarantee innocuous food and quality work on three fronts must be carried out: 1) the design of a modern normative framework in agreement with the international norm particularly, Codex Alimentarius; 2) the prevention of innocuity in the food chain based on Good Practices and 3) the design and management of a national system of food controls with institutions that make operational legislation, control, inspection and information, education, and communication. In this work three development experiences in these areas are presented. The first shows three projects developed by the FAO to improve normative capacity and the management of Codex Alimentarius. The second, shows the implementation of the Chilean Agency for Food Innocuity. The third, shows the experience of the SICOFHOR program from Argentina, which encourages good practices in the cash crop and fruit chains.

Text in Spanish

http://www.saber.ula.ve/db/ssaber/Edocs/centros_investigacion/ciaal/agroalimentaria/anum24/articulo9.pdf

Integración Regional – Políticas de Salud Regional Integration - Health Policies



Health integration processes: challenges for MERCOSUR in the health field

Sanchez DM
Cad Saúde Pública 2007; 23 (supl. 2):

S155-S63

This paper describes the institutional background in Latin American integration in both the economy and health, and proposes a systematization of possible health integration modalities. Facilitating and inhibiting factors for integration according to each modality are identified, and their feasibility is discussed in the present context. The structure and functioning of MERCOSUR health structures (Ministerial Meeting and Sub-group 11) are briefly described, as well as the advances achieved to date, reflecting on the possible causes of uneven progress in different areas.

Text in Spanish

<http://www.scielo.br/pdf/csp/v23s2/04.pdf>



Living conditions, health status and health services availability along the Brazilian border: a geographical approach

Peiter PC

Cad Saúde Pública 2007; 23 (supl.2): S237-S50

The aim of this study was to identify critical health care areas along the Brazilian border. The distribution of health resources was analyzed by municipality and border area in 1999-2000 and subsequently analyzed according to living conditions, health status, geographic accessibility, and other aspects of the border dynamics. Secondary data were used from large national health and geographic databases, complemented by primary data collected in the field. Geographic information systems were used to analyze the data and to produce maps. The border area was heterogeneous in terms of the above-mentioned characteristics. The municipalities along the northern portion of the border strip showed the most unfavorable conditions and thus constitute the most critical area for health care. The central portion showed an intermediate situation, with a balanced proportion of sub-regions in critical versus non-critical situations. The southernmost portion showed a satisfactory situation in all its sub-regions. Health care heterogeneity along the border showed the need for a specific focus, taking the different sub-regions and border dynamics into account.

Text in Spanish

<http://www.scielo.br/pdf/csp/v23s2/12.pdf>



Regional integration and health policies

Giovanella L; Sanchez DM Delia M.
Cad Saúde Pública 2007; 23 (supl.2):

S115-S116

The regional integration issue has been increasingly present on the economic and political agenda of Latin American countries, since in a context of asymmetrical globalization the continent's sub-regions have attempted to strengthen their ties in order to gain a more favorable position in international negotiations. Thus, they not only change the rules of the trade game, but also produce social changes, including those related to health policies and the right to health care.

Text in Spanish

http://www.scielo.br/pdf/csp/v23s2/es_00.pdf

Text in English

<http://www.scielo.br/pdf/csp/v23s2/00.pdf>



Regional integration, population health needs, and human resources for health systems and services: an approach to the concept of health

care gap

Schweiger ALF; Alvarez DT

Cad Saúde Pública 2007; 23 (supl.2): S202-S13

The existence of gaps between the population's health needs and the human resources available for meeting them, as well as limitations in the methods to estimate such needs, constitute key factors to be tackled in the development and integration of health systems in Latin America. This aim of this study was to conduct an

initial literature review on the tools and procedures used to estimate and plan human resources allocation in health and to use this review as the basis for identifying the advantages, limitations, and complementary characteristics of these tools, subsequently proposing the need for more in-depth studies on their applicability for designing regional health policies. The article then presents the concept of global public health goods, the generation and use of which results in a strategic alternative for improving both health systems integration in the region and quality of life for the population covered by such services.

Text in Spanish

<http://www.scielo.br/pdf/csp/v23s2/09.pdf>



Social cohesion and regional integration: the MERCOSUR social agenda and the integrationist social policy major challenges

Draibe MS

Cad. Saúde Pública 2007; 23 (supl.2): S174-S83

In the consolidation of the Southern Cone Common Market (MERCOSUR), social policies are still in the embryonic stage. However, since the latter half of the 1990s there has been a speedup in the creation of institutions dedicated to such policies with the Common Market's framework. This article focuses on health policy and the broader social policy system in order to identify the reasons for the imbalance, through three movements: reconstitution of the history of the institutional construction of social policies in MERCOSUR; identification and comparison of the successive strategies for the formulation and implementation of the social integration agenda; and reflection on the current dilemmas and challenges faced by the process. According to the study, MERCOSUR operates with strategies that are difficult to mutually reconcile. On the institutional level, it follows a minimalist strategy, while on the conceptual/ discursive level it adopts a maximalist strategy for supranational unification of social policies. The fact is that it operates a minimalist social policy strategy, since it fails to bring to the field of social integration the debate and proposals on economic and social development models that could sustain the effective construction of regional social citizenship.

Text in Portuguese

<http://www.scielo.br/pdf/csp/v23s2/06.pdf>

OIE



Final Report of the 75th General Session of the International Committee of the World Organization for Animal Health; 2007 May 20-25; Paris, France. Paris: OIE; 2007.

Text in English

http://www.oie.int/download/SG/2007/A_RF_2007_webpub.pdf

Vacunación Animal / Animal Vaccination



Antigen and vaccine banks: technical requirements and the role of the european antigen bank in emergency foot and mouth

disease vaccination

Lombard M, Fussel AE

Rev Sci Tech. 2007 Apr; 26 (1): 117-34

Antigen and vaccine banks are stocks of immunogenic materials ready to be formulated into vaccines (bulk antigens) or ready to use (vaccines) in case of need by one or more of the parties of the bank. These stocks were primarily developed by foot and mouth disease [FMD] free European countries to control unexpected severe FMD episodes after the cessation of routine vaccination in the 1990s. For various reasons, including the lack of suitable antigens or of discriminatory tests to be used following emergency vaccination, such banks have so far not been developed to control other transboundary diseases, although over the last few years stocks of vaccines have been collected by the European Community to support control measures for bluetongue or classical swine fever. The FMD virus antigens in the banks are stored at ultra-low temperatures (usually -130 degrees C) to guarantee a shelf life of at least five years compared to a shelf-life of one to two years for vaccines stored at +4 degrees C. When concentrated, a 50 l volume of antigens can contain up to 15 million cattle doses as per the standard potency specifications in the OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals. Selecting antigen/vaccine strains for storage in a bank and selecting the appropriate strain(s) to be used in the case of emergency vaccination is the responsibility of FMD disease experts. The paper discusses the role of serological testing for the detection of infected animals in a vaccinated population, which is necessary for the recognition of FMD status. Technical advantages and disadvantages of antigen and vaccine banks in general are also outlined in this article. Finally, the experience of the European Community in organising, renewing, and controlling a sizeable FMD antigen bank since 1993 is discussed, and the use of the European Union (EU) antigen bank for international actions outside the EU is presented.

Text in English



Good manufacturing practice for immunological veterinary medicinal products

Todd JI

Rev Sci Tech. 2007 Apr; 26 (1): 135-45

Good manufacturing practice (GMP) is applied to the manufacture of immunological veterinary medicinal products (IVMPs) in a number of regions around the world. Within the European Union (EU) there are well-established requirements for GMP in the manufacture of IVMPs. Maintaining GMP when producing IVMPs is important because there are particular risks associated with their manufacture. These risks concern

contamination and cross-contamination, environmental and operator protection, the variability of biological manufacturing processes and the limitations of some IVMP finished product tests. Whilst the general requirements of GMP are applicable to all medicinal products, guidance which addresses the specific concerns for IVMPs is provided by Annex 5 and also Annex 1 in Medicinal Products for Human and Veterinary Use: Good Manufacturing Practice (referred to as the GMP Guidelines). Extending and harmonising GMP requirements for IVMP manufacture throughout the world will increase the availability of high quality, safe and efficacious IVMPs.

Text in English



Innate immunity and new adjuvants

Mutwiri G, Gerds V, Lopez M, Babiuk LA

Rev Sci Tech. 2007 Apr; 26 (1): 147-56

Vaccination remains the most cost-effective biomedical approach to the control of infectious diseases in livestock. Vaccines based on killed pathogens or subunit antigens are safer but are often ineffective and require coadministration with adjuvants to achieve efficacy. Unfortunately, most conventional adjuvants are poorly defined, complex substances that fail to meet the stringent criteria for safety and efficacy desired in new generation vaccines. A new generation of adjuvants that work by activating innate immunity presents exciting opportunities to develop safer, more potent vaccines. In this review the authors highlight the role of innate immunity in protection against infectious disease and provide some examples of promising new adjuvants that activate innate immunity. They do not review the conventional adjuvants present in many vaccines since they have been reviewed extensively previously.

Text in English



Mass vaccination and herd immunity: cattle and buffalo

Roeder PL, Taylor WP

Rev Sci Tech. 2007 Apr; 26 (1):

253-63

The design of effective programmes for emergency response to incursion of epizootic diseases of cattle, for exclusion of such diseases and for implementation of progressive control in enzootic situations leading to eventual virus elimination, is currently largely empirical. This needs to be remedied to provide more cost-effective use of vaccines and more effective control. At population level, protective effects of immunization can extend well beyond the individual, influencing the dynamics of viral propagation within the whole population, non-vaccinated as well as vaccinated. This concept of herd immunity and application of the resulting epidemiological principles, combined with experience gained from disease control programmes such as the Global Rinderpest Eradication Programme has much to offer in designing effective

science-based control programmes. This paper explores practical exploitation of the herd immunity principle by considering some of the factors which militate against mass vaccination achieving effective levels of herd immunity and, with these in mind, suggesting ways to optimise the efficiency of mass vaccination programmes.

Text in English



The use of vaccination in poultry production

Marangon S, Busani L
Rev Sci Tech. 2007 Apr; 26 (1):

265-74

Poultry vaccines are widely applied to prevent and control contagious poultry diseases. Their use in poultry production is aimed at avoiding or minimising the emergence of clinical disease at farm level, thus increasing production. Vaccines and vaccination programmes vary broadly in regard to several local factors (e.g. type of production, local pattern of disease, costs and potential losses) and are generally managed by the poultry industry. In the last decade, the financial losses caused by the major epidemic diseases of poultry (avian influenza and Newcastle disease) have been enormous for both the commercial and the public sectors. Thus, vaccination should also be applied in the framework of poultry disease eradication programmes at national or regional levels under the official supervision of public Veterinary Services. This paper provides insight on the use of vaccination for the control of poultry infections, with particular emphasis on the control of transboundary poultry diseases.

Text in English



Is vaccination against transmissible spongiform encephalopathy feasible?

Wisniewski T, Chabalgoity JA, Goni F
Rev Sci Tech. 2007 Apr; 26 (1): 243-51

Prion diseases are a unique category of illness, affecting both animals and humans, where the underlying pathogenesis is related to a conformation change of the cellular form of a normal, self-protein called a prion protein (PrP(c) [C for cellular]) to a pathological and infectious conformation known as scrapie form (PrP^{Sc} [Sc for scrapie]). Currently, all prion diseases are without effective treatment and are universally fatal. The emergence of bovine spongiform encephalopathy and variant Creutzfeldt-Jakob disease has highlighted the need to develop possible therapies. In Alzheimer's disease (AD), which has similarities to prion diseases, both passive and active immunisation have been shown to be highly effective at preventing disease and cognitive deficits in model animals. In a human trial of active vaccination in AD, despite indications of cognitive benefits in patients with an adequate humoral response, 6% of patients developed significant complications related to excessive cell-mediated immunity. This experience highlights that immunotherapies designed to be directed against a self-

antigen have to finely balance an effective humoral immune response with potential autoimmune toxicity. Many prion diseases have the gut as a portal of infectious agent entry. This makes mucosal immunisation a potentially very attractive method to partially or completely prevent prion entry across the gut barrier and to also produce a modulated immune response that is unlikely to be associated with any toxicity. The authors' recent results using an attenuated Salmonella vaccine strain expressing the prion protein show that mucosal vaccination can partially protect against prion infection from a peripheral source, suggesting the feasibility of this approach.

Text in English



Vaccination in conservation medicine

Plumb G, Babiuk L, Mazet J,
Olsen S, Rupprecht C, Pastoret PP,

Slate D

Rev Sci Tech. 2007 Apr; 26 (1): 229-41

Unprecedented human population growth and anthropogenic environmental changes have resulted in increased numbers of people living in closer contact with more animals (wild, domestic, and peridomestic) than at any other time in history. Intimate linkage of human and animal health is not a new phenomenon. However, the global scope of contemporary zoonoses has no historical precedent. Indeed, most human infectious diseases classed as emerging are zoonotic, and many of these have spilled over from natural wildlife reservoirs into humans either directly or via domestic or peridomestic animals. Conservation medicine has recently emerged as a meaningful discipline to address the intersection of animal, human, and ecosystem health. Interest in the development of novel vaccines for wildlife encounters important challenges that may prevent progress beyond the conceptual phase. Although notable examples of successful wildlife immunisation programmes exist, depending upon key considerations, vaccination may or may not prove to be effective in the field. When implemented, wildlife vaccination requires a combination of novel zoonosis pathogen management strategies and public education to balance conservation, economic, and public health issues.

Text in English



Vaccination for notifiable avian influenza in poultry

Capua I
Rev Sci Tech. 2007 Apr; 26 (1):

217-27

Notifiable avian influenza (NAI) is a listed disease of the World Organisation for Animal Health (OIE) that has become a disease of great importance both for animal and human health. Prior to 2000, vaccination against NAI was discouraged and used to aid control of only a limited number of outbreaks, without reaching the goal of eradication. Pivotal work on the application of a vaccination programme aimed at, and resulting in,

eradication was carried out in Italy, and was followed by other research, e.g. in Hong Kong and the United States of America. Given the spread of Asian lineage highly pathogenic avian influenza (HPAI) H5N1 to three continents, vaccination is now being used on a wide scale under different conditions, which in most cases are not ideal. Although in some countries, a lack of infrastructure and resources can greatly limit the overall success of control programmes that encompass vaccination, it is imperative that international organisations set guidelines to 'accredit' control strategies. These guidelines should include recommendations on seed strains to be used in vaccine preparations, the characteristics of the vaccine, the most appropriate field strategy to apply in the different phases of a control/eradication programme, and models of exit strategies. The availability of harmonised protocols would greatly facilitate the achievement of tangible results and would save time and avoid unnecessary wastage of resources.

Text in English



Vaccines and animal welfare

Morton DB
Rev Sci Tech. 2007 Apr; 26 (1):
157-63

Vaccination promotes animal welfare by protecting animal health, but it also has other welfare benefits, e.g. recent investigations have looked at the potential of vaccines in immunoneutering such as immunocastration--a humane alternative to the painful traditional methods. Similarly, vaccination can be used during disease outbreaks as a viable alternative to stamping-out, thus avoiding the welfare problems that on-farm mass slaughter can cause. Protecting animal health through vaccination leads to improved animal welfare, and maintaining good welfare ensures that animals can respond successfully to vaccination (as poor welfare can lead to immunosuppression, which can affect the response to vaccination). It is clear that vaccination has tremendous advantages for animal welfare and although the possible side effects of vaccination can have a negative effect on the welfare of some individual animals, the harm caused by these unwanted effects must be weighed against the undoubted benefits for groups of animals.

Text in English



Vaccines for emerging infections

Marano N, Rupprecht C, Regnery R
Rev Sci Tech. 2007 Apr; 26 (1):
203-15

Emerging infectious diseases represent a grave threat to animal and human populations in terms of their impact on global health, agriculture and the economy. Vaccines developed for emerging infections in animals can protect animal health and prevent transmission of zoonotic diseases to humans. Examples in this paper illustrate how industry and public health can collaborate to develop a vaccine to prevent an emerging disease in

horses (West Nile virus vaccine), how poultry vaccination can protect animals and prevent transmission to people (avian influenza vaccine), how regulatory changes can pave the way for vaccines that will control the carrier state in animals and thus prevent infection in humans (*Bartonella henselae* vaccine in cats) and how novel technologies could be applied to vaccinate wildlife reservoir species for rabies. Stemming from the realisation that zoonotic diseases are the predominant source of human emerging infectious diseases, it behoves academic, public health, and animal health agencies to consider creative constructive approaches to combat serious public health challenges. Vaccination of vector/reservoir species, when efficacious vaccines are available, offers significant advantages to combating zoonotic human disease.

Text in English



Vaccines and viral antigenic diversity

Mumford JA
Rev Sci Tech. 2007 Apr; 26 (1):
69-90

Antigenic diversity among ribonucleic acid (RNA) viruses occurs as a result of rapid mutation during replication and recombination/reassortment between genetic material of related strains during co-infections. Variants which have a selective advantage in terms of ability to spread or to avoid host immunity become established within populations. Examples of antigenically diverse viruses include influenza, foot and mouth disease (FMD) and bluetongue (BT). Effective vaccination against such viruses requires surveillance programmes to monitor circulating serotypes and their evolution to ensure that vaccine strains match field viruses. A formal vaccine strain selection scheme for equine influenza has been established under the auspices of the World Organisation for Animal Health (OIE) based on an international surveillance programme. A regulatory framework has been put in place to allow rapid updating of vaccine strains without the need to provide full registration data for licensing the updated vaccine. While there is extensive surveillance of FMD worldwide and antigenic and genetic characterisation of isolates, there is no formal vaccine strain selection system. A coordinated international effort has been initiated to agree harmonised approaches to virus characterisation which is aimed at providing the basis for an internationally agreed vaccine matching system for FMD supported by the OIE. The emergence and spread of BT in Europe have resulted in an intensification of vaccine evaluation in terms of safety and efficacy, particularly cross-protection within and between serotypes. The most important requirement for producing vaccines against viruses displaying antigenic diversity is a method of measuring antigenic distances between strains and developing an understanding of how these distances relate to cross-protection. Antigenic cartography, a new computational method of quantifying antigenic distances between strains has been applied to human

and equine influenza to examine the significance of viral evolution in relation to vaccine strains. This method is highly applicable to other important pathogens displaying antigenic diversity, such as FMD.

Text in English



Veterinary vaccines for public health and prevention of viral and bacterial zoonotic diseases

Lutticken D, Segers RP, Visser N

Rev Sci Tech. 2007 Apr; 26 (1): 165-77

To meet with the increasing demand for food, the scale of world food production is increasing, as is the transport of animals and food products. At the same time, the contact of animals with the environment remains unchanged or, in the case of free-ranging animals, is even increasing. A number of microorganisms have established themselves in farmed animals, which although relatively harmless to animals are pathogenic to man. In this article, the options for reducing the risk of transferring zoonotic agents from animals (particularly farm animals) to man using veterinary vaccines against viral and bacterial diseases are described.

Text in English



Veterinary vaccines and their use in developing countries

Lubroth J, Rweyemamu MM, Viljoen G, Diallo A, Dungu B,

Amanfu W

Rev Sci Tech. 2007 Apr; 26 (1): 179-201

The burden of infectious diseases in livestock and other animals continues to be a major constraint to sustained agricultural development, food security, and participation of developing and in-transition countries in the economic benefits of international trade in livestock commodities. Targeted measures must be instituted in those countries to reduce the occurrence of infectious diseases. Quality veterinary vaccines used strategically can and should be part of government sanctioned-programmes. Vaccination campaigns must be part of comprehensive disease control programmes, which, in the case of transboundary animal diseases, require a regional approach if they are to be successful.

This paper focuses on the salient transboundary animal diseases and examines current vaccine use, promising vaccine research, innovative technologies that can be applied in countries in some important developing regions of the world, and the role of public/private partnerships.

Text in English

**Seminarios / Congresos / Eventos
Seminars / Congress / Events**

8th International Veterinary Immunology Symposium

15-19 Aug, 2007

Ouro Preto, Brazil

secretariat@8ivis.org

<http://www.8ivis.org/>

12th International Conference of the Association of Institutions for tropical Veterinary Medicine (AITVM)

20-23 Aug, 2007

Montpellier, France

aitvm@cirad.fr

<http://aitvm2007.cirad.fr/>

Novel Vaccines: Bridging Research, Development, and Production

22-24 Aug, 2007

Cambridge, Massachusetts, USA

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www.healthtech.com/2007/vac

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