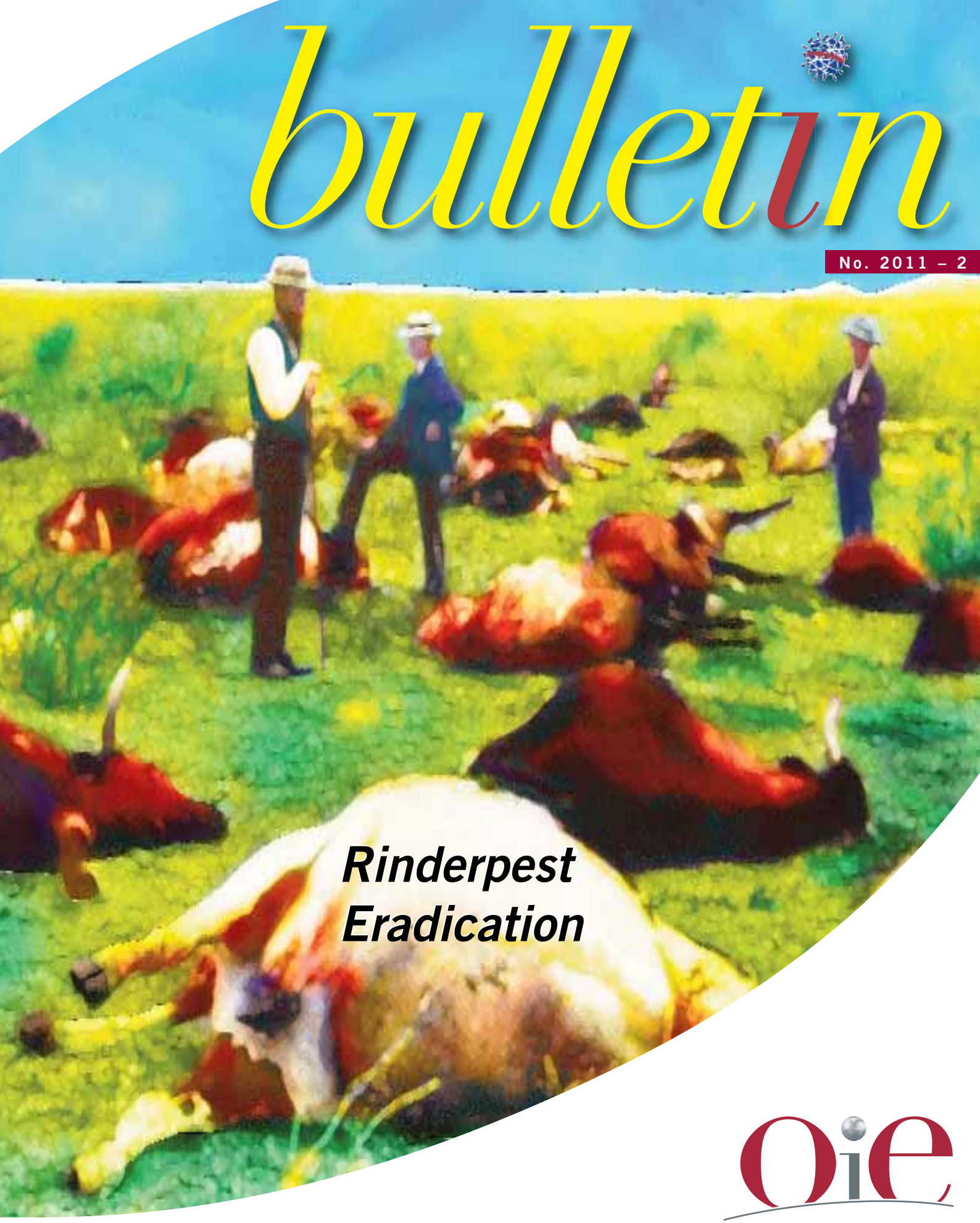
bulletin

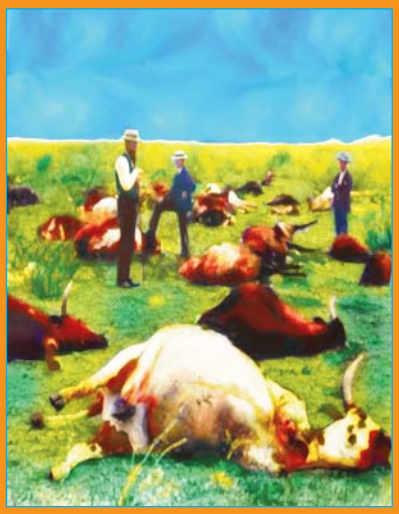
No. 2011 – 2



Rinderpest Eradication

Organisation Mondiale de la Santé Animale • World Organisation for Animal Health • Organización Mundial de Sanidad Animal

contents



© With the kind authorisation of the Director, Onderstepoort Veterinary Research Institute, Onderstepoort 0110, Pretoria, South Africa

ISSN 1684-3770

FOUR ISSUES PER YEAR • Chief editor: Bernard Vallat • Copy editor: Bulletin Editorial Committee • Printer: Jouve • Design: OIE/P. Blandin

Subscriptions: www.oie.int/boutique

The Odyssey of Rinderpest Eradication

© D. Morzinski/OIE

1924 and 2011 represent two milestones for the OIE, both related to the global fight against rinderpest, one of the most dreaded animal diseases in the history of humankind.

In 1924, following a new incursion of the rinderpest virus in Europe, via the port of Antwerp in Belgium, a group of visionary veterinarians decided to found an international organisation that could inform its Member Countries of epizootics and provide them with the scientific information they needed to improve their animal disease control measures.

Nearly 90 years later, the Office International des Epizooties (OIE) has grown from the 28 signatory countries of that International Agreement of 25 January 1924 to 178 Member Countries, and is now the World Organisation for Animal Health, whilst keeping its historic acronym. The initial recommendations to promote a coordinated international effort for the control of rinderpest and other epizootics listed at that time (foot and mouth disease, anthrax, sheep and goat pox, rabies, glanders, dourine, classical swine fever) laid the groundwork for what were to become OIE-recommended international health policies.

The OIE's first steps in rinderpest control, aimed in particular at Asia, Africa and the Middle East, consisted in the establishment of scientific cooperation with existing national research institutes in order to detect the most efficient methods for fighting the spread of rinderpest, including the production and standardisation of safe and effective vaccines, and to achieve a strategic consensus on the scientific bases of the organisation's actions aimed at controlling and preventing rinderpest in its Member Countries.

As early as the 1960s, mass vaccination campaigns in the Member Countries concerned, accompanied by conventional control measures, led to a substantial decline in the disease, which, however, made a devastating reappearance on the African continent 20 years later, in the 1980s. The international response to this resurgence of the disease was once again supported by the OIE's actions, in particular the publication of recommended standards for the establishment of rinderpest epidemiological surveillance systems. This contained what was called the 'OIE Procedure', enabling eligible Member Countries to be officially recognised as enjoying rinderpest-free status, which was adopted by the General Assembly of national delegates and which set out three steps that each infected country had to take in order to obtain such recognition by the OIE.

1924 and 2011 represent two milestones for the OIE, both related to the global fight against rinderpest

In parallel, the United Nations became very actively involved through GREP – the Global Rinderpest Eradication Programme – coordinated by the Food and Agriculture Organization (FAO) in collaboration with the OIE and the UN International Atomic Energy Agency (IAEA) from the 1990s, with massive support to eligible countries from donors such as the European Union, with the aim of obtaining, by 2011 at the very latest, an official declaration of world rinderpest eradication, to be jointly proclaimed by the FAO and the OIE.

Today, 198 countries have been recognised as rinderpest-free by the OIE, with permanent support from the FAO, which represents all countries that have animals susceptible to the disease. This painstaking work was accomplished by OIE experts and officers in charge of recommending rinderpest-free recognition, who systematically verified the absence of rinderpest viral circulation in all countries concerned. This constitutes a major breakthrough, not only in the

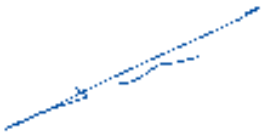
scientific field, but also for the policies of cooperation and coordination amongst international organisations and between those organisations and the international community as a whole. It is, however, above all a success for Veterinary Services and the entire veterinary profession, especially since the scarcity of resources available to Veterinary Services in many infected countries constituted a major obstacle to the implementation of effective control strategies.

In many countries that have recently suffered from rinderpest, their economic development was often affected by the performance of their livestock sector, in terms of production, animal health, and the quality and safety of their animal products; this performance is directly dependent on the quality of their national Veterinary Services Over the years, the various successful rinderpest control campaigns have served to convince national and international decision-makers of the importance of reinforcing Veterinary Services in order to make them more effective in combating not only rinderpest but also all other animal diseases. Thus, the OIE is endeavouring to achieve recognition of Veterinary Services as a global public good, and to make their compliance with international standards a priority public investment area. In 2011, the official proclamation by the FAO and the OIE of planetary rinderpest eradication is a cause for celebration, and coincides with the 250th anniversary of the official creation of the veterinary profession. This is the first time an animal disease has been eradicated in the world, just as smallpox is the only human disease that has so far been eradicated by the medical profession.

This is the first time an animal disease has been eradicated in the world, just as smallpox is the only human disease that has so far been eradicated by the medical profession

There remains one last challenge: what is known as the post-eradication phase. Although the rinderpest virus no longer circulates amongst live animals, it is still present in certain laboratories, mainly for the production of vaccines in the event that the disease reappears, due to an accident or an act of bioterrorism. International coordination and cooperation will once again prove crucial in order to define acceptable conditions for the possession and use of the virus still present in laboratories. The OIE, in collaboration with the FAO and with Member Countries, is committed to ensuring that the process is carried out in a reliable and transparent manner.

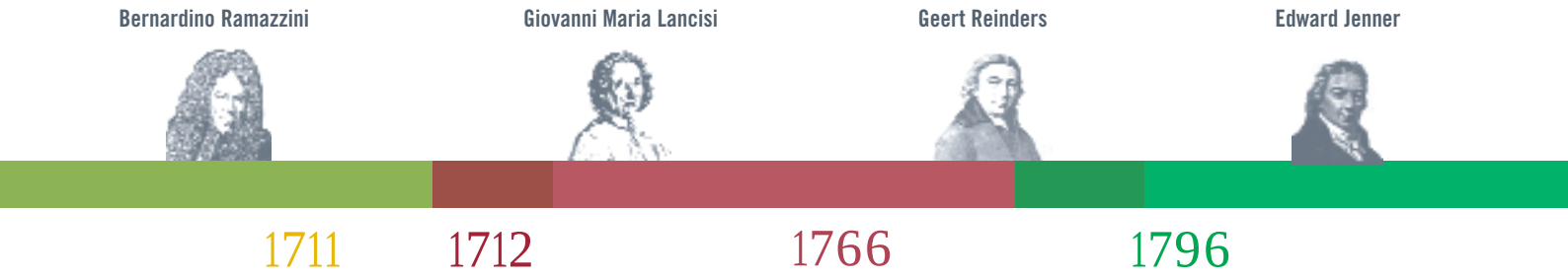
The OIE, furthermore, is currently working on strategies to make progress in the international control, over the coming years, of other dreadful diseases such as foot and mouth disease, rabies, and peste des petits ruminants.



Bernard Vallat
Director General

A brief history of rinderpest (cattle plague)

"If a disease affects a large number of people, it is an epidemic; when most of them die, it is a plague"
Galen



Rinderpest has undergone a scientific and technical development very akin to that of smallpox

The first epidemic almost certainly occurred between AD 376 and AD 386.

The first available clinical descriptions of the disease were made in 1712 by Bernardino Ramazzini (1633-1714), senior professor of medicine at Padua University. He admitted that there were similarities between rinderpest and smallpox.

However, it was Giovanni Maria Lancisi (1654-1720) who, during the same period, made the first breakthrough in controlling the disease. Johann Kanold (1679-1729) in Prussia recognised the contagious nature of rinderpest, reporting in 1711 that rinderpest was transmissible and that cattle that recovered from the infection became resistant.

Apart from the first sanitary prophylaxis measures defined chiefly by Lancisi, the first medical prophylaxis trials were carried out by a procedure similar to variolation (inoculation). The first attempts to prevent the disease by inoculation (administration of fully virulent products) appear to have been made in Great Britain in 1754 and in the Netherlands in 1755.

Of all the inoculation trials carried out, those of Geert Reinders in the Netherlands deserve special mention. Geert Reinders (1737-1815) was a self-taught farmer. Assisted by Pieter Camper (1722-1789), he performed a number of inoculation trials with varying success. During the course of his experiments, Reinders noticed that calves born of the few mothers who had overcome the infection were themselves resistant to inoculation, which was probably the world's first observation of maternal immunity (Barrett *et al.*, 2006).

After Edward Jenner's discovery in 1796 that vaccination with cowpox could prevent smallpox, new inoculation trials were attempted. Further trials were also performed using vaccinia to prevent rinderpest.

Between 1865 and 1867, Great Britain suffered an unprecedented rinderpest epizootic (Collectif, 1866). Taking advantage of this

A brief history of rinderpest

(cattle plague)

1796 1865

Claude Bourgelat

My presence here today is a tribute to the survival power of a group of viruses, Morbillivirus, which may have evolved and been associated with humans since the time of the first coastal states, 5.000 to 6.000 years ago. For the first time, these civilisations gathered together large populations of susceptible humans and animals, providing an inexhaustible source of susceptible young animals crucial to the persistence of these fragile agents that generally cause short-lived infection conferring full immunity for life. In 1935, the illustrious veterinary historian Leclainche showed that, according to historical documents, the rinderpest epizootic of 376-386 AD was possibly the very first to be recorded formally. It began in the East, as was so often the case thereafter, devastating Belgium, Flanders, Pannonia and Illyria and lastly reaching Roman territory.

I would probably not be here today if the rinderpest virus had not demonstrated, once again, its ability to profit from war, civil strife and natural disasters.

All such disorder leads to intra- or interstate migrations of cattle, often as plunder or provisions for marching armies. Of course a large number of movements also take place under normal circumstances, particularly in Africa, either in search of pasture (transhumance) or to market for slaughter.

Walter Plowright,
free translation of a publication marking his award of the King Baudouin International Development Prize, on 21 November 1984.

episode, Henri Bouley (1814-1885), professor at the Alfort school of veterinary medicine in France, demonstrated that vaccinia conferred absolutely no protection against rinderpest by sending eight vacciniferous heifers to Great Britain in the middle of the epizootic. All eight heifers died from rinderpest.

It was rinderpest, rather than hippiatry, that was largely responsible for the foundation of France's first veterinary schools (Lyons and Alfort) by Claude Bourgelat (1712-1779), as well as of the short-lived veterinary school of Limoges (1766) (Meiller and Vannier, 1986). The first graduates from these schools were sent into the countryside to fight the major diseases of horned animals (Mammerickx, 1971; Vallat, 2009).

Rinderpest also played a key role in the development of medical science in general and microbiology in particular.

Rinderpest has contributed greatly to the conceptualisation of infectious agents (Wilkinson, 1992). Friedrich Löffler (1852-1915) and Pavil Frösch (1860-1928) were the first to demonstrate that an animal infection – foot and mouth disease – was caused by a virus and not a bacterium or toxin. This discovery about the nature of certain infectious agents was quickly followed by that of other pathogens with the same characteristics.

In 1902, Maurice Nicolle (1862-1932) and Mustafa Adil-Bey (1871-1904) demonstrated that rinderpest was also caused by a virus; this came as a real surprise

Friedrich Löffler

1902

Maurice Nicolle

1920

Arnold Theiler

Henri De Roo

1924

because human plague was caused by a bacteria. This made the discovery controversial and Alexandre Yersin (1863-1943), the discoverer of the bacterium responsible for human plague, attempted to check the results by performing experiments in Na-Thrang, Vietnam.

In addition to this seminal discovery, many reputed scientists of the same era added to our knowledge of rinderpest. When a rinderpest epizootic struck South Africa in the late 19th Century, the Germans sent Robert Koch (1843-1910) and Paul Kohlstock (1861-1900) to the country to study the disease and its prevention, while the Pasteur Institute in Paris sent Jules Bordet (1870-1961) and Jan Danysz (1860-1928) to work with the young Swiss veterinarian, Arnold Theiler (1867-1936).

The rinderpest adventure might well have stopped there.

However, in 1920, rinderpest was introduced accidentally into Belgium by a herd of infected zebus from India en route to Brazil. These animals remained in transit in the port of Antwerp for around two weeks in a quarantine facility where they came into contact with American slaughter cattle, before being shipped to markets in Brussels and Ghent. In Ghent, these cattle went on to infect recovered cattle from Germany that were then distributed throughout the country, spreading the disease. Rinderpest erupted in multiple outbreaks but failed to be recognised until three weeks later, in spite of the death of seven of the zebus that had been in transit. Hygienic prophylaxis alone (depopulating the area around the outbreaks) put paid to the epizootic in around five months (August 1920 to January 1921).

The resurgence of rinderpest in Europe, from whence it had been eradicated, highlighted the need for international collaboration to control major infectious diseases of domestic animals and wildlife. Alarmed by the spread of rinderpest in Belgium, France called for an international meeting to be held in 1920 to organize the control of contagious animal diseases worldwide.

This meeting led to the creation in 1924 of the Office International des Epizooties (OIE), now known as the World Organisation for Animal Health.

The first OIE president was Belgian veterinarian Henri De Roo (1861-1930) who had graduated from the veterinary school of Cureghem (Brussels) in 1886. Through his duties in Belgium, he came to play the key role in rinderpest control in 1920, providing dazzling proof of his abilities (Pastoret, 1986).

So, good was born of bad. The rest is another story.

References

Barrett T., Pastoret P-P. & Taylor W.P. (2006). – Rinderpest and peste des petits ruminants. Biology of animal infections (P.-P. Pastoret, series editor). Academic Press-Elsevier, Amsterdam.

Blancou J. (2003). – History of the surveillance and control of transmissible animal diseases. World Organisation for Animal Health, Paris.

Collectif (1866). – Third report of the Commissioners appointed to inquire into the origin and nature, etc., of the cattle plague; with an appendix. Presented to both Houses of Parliament by Command of her Majesty, London (available online: post.queensu.ca/~forsdyke/rindpst2.htm).

Dieckerhoff W. (1890). – Geschichte der Rinderpest und ihrer Literatur. Verlag von Th. Chr. Fr. Enslin, Berlin.

Mammerickx M. (1971). – Claude Bourgelat, avocat des vétérinaires. Chez l'Auteur, Brussels.

Meiller D. & Vannier P. (1986). – Limousines. L'aventure de la race bovine limousine en France et dans le monde. Éditions la Manufacture, Lyons.

Pastoret P.-P. (1986). – La peste bovine et la profession vétérinaire. *In* De l'art à la science, 150 ans de médecine vétérinaire à Cureghem, 1936-1986. *Ann. Méd. vét.*, 117-122.

Plowright W. (1985). – La peste bovine aujourd'hui dans le monde. Contrôle et possibilité d'éradication par la vaccination. *Ann. Méd. vét.*, **129**, 9-32.

Spinage C.A. (2003). – Cattle plague. A history. Kluwer Academic/Plenum Publishers, New York.

Vallat F. (2009). – Les bœufs malades de la peste. La peste bovine en France et en Europe, XVIII^{e}-XIX^{e} siècles. Rennes University Press, Rennes.

Wilkinson L. (1992). – Animals and disease. An introduction to the history of comparative medicine. Cambridge University Press, Cambridge.

A glimpse of the key contributions of the OIE
to the global eradication of rinderpest, from 1921 to 2011

In 1920, rinderpest re-occurred unexpectedly in Belgium, as a result of infected zebu cattle (*Bos primigenius indicus*), which originated from India and were destined for Brazil, stopping in transit at the port of Antwerp. Concern over the resulting international spread led to an international conference of Chief Veterinary Officers from different regions of the world in Paris, March 1921.

The conference participants agreed on the following recommendations to support a concerted international effort in the fight against rinderpest:

– immediate notification of neighbouring countries by telegram when new outbreaks of the disease occur in regions hitherto free;

– in principle, compulsory slaughter of sick and clinically suspect bovidae, and also, as far as possible, any contaminated animals even if apparently healthy, with substantial and immediate compensation;

– a ban on the use of any product that is virulent or likely to revert to virulence to immunise animals in rinderpest-free regions;

– a ban on the industrial production of sera and vaccines against rinderpest in rinderpest-free regions, except in scientific establishments supervised by the State.

These recommendations became the pillars and main objectives of the OIE on the occasion of its creation in 1924 and would be pursued over the next 87 years. In 2001 they were written down in detail and reinforced in a summary statement of OIE objectives that was proposed by the new Director General, as follows: to ensure transparency in the global animal disease situation; to collect, analyse and disseminate veterinary scientific information; to develop international standards for disease control methods and the quality of vaccines; and to encourage international solidarity in the control of animal diseases.

The steadily increasing number of countries joining the OIE progressively encouraged the Organisation (then known as the Office international des épizooties [International Office of Epizootics]) to issue international recommendations, based on the most recent science, to help countries to protect themselves from the introduction of rinderpest through the international movement of animals and their products, and to provide guidelines and standards to control this dreadful animal disease. As early as 1947, the OIE was already promoting international solidarity by mediating between donors, vaccine producers and countries in need,

thereby supporting large-scale campaigns based on the most up-to-date scientific information available (2). At an early stage, the OIE started to strategically commission national research institutes throughout the world to conduct work tailored to the needs of the international community of Veterinary Services. Among other tasks, this included research on appropriate methods to prevent the spread of rinderpest through international trade in bovine meat from infected countries, including appropriate virus inactivation procedures (1), and experimental work on the standardisation of safety of rinderpest vaccines (3). Rinderpest has thus significantly contributed to the birth of the concept of *OIE Reference Laboratories and OIE Collaborating Centres* – an essential global network of specialists – an idea which was officially endorsed by OIE Members in the early 1990s. This approach will also be followed when addressing other diseases or topics.

In the late 1950s, stable, safe and cheap rinderpest vaccines became available, enabling the lifelong immunity of susceptible livestock, once vaccinated. From the 1960s onwards, the OIE, FAO and regional organisations launched and coordinated several large-scale campaigns to strengthen the capacity of countries to eradicate rinderpest and control other major transboundary diseases (Fig. 1). Through these intensive control programmes, based mainly on mass vaccination but also on

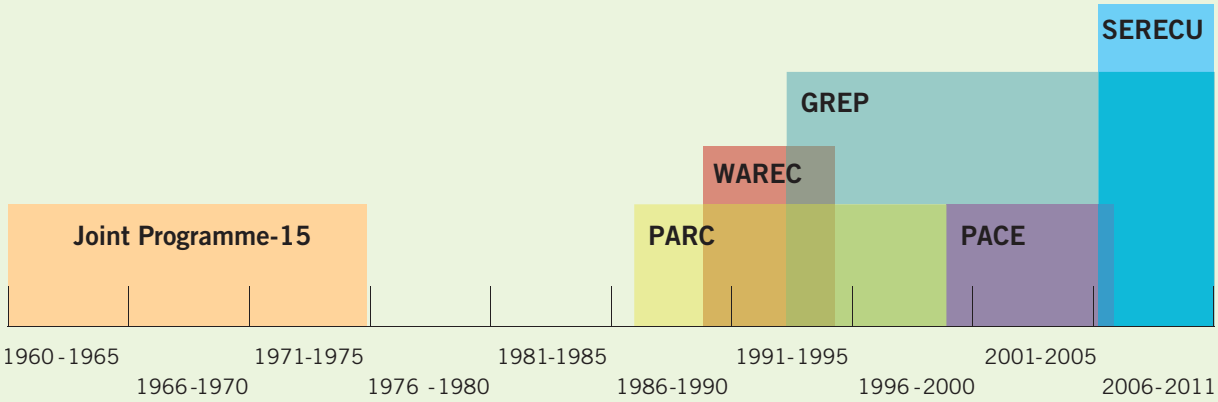


Fig. 1

Timeline of major global and regional vaccination and rinderpest eradication campaigns in Africa and the greater Middle East Region

JP-15: Joint Programme 15 (1960-1976), parts of sub-Saharan Africa
WAREC: West Asia Rinderpest Eradication Campaign (1989-1994), greater Middle East region
PARC: Pan-African Rinderpest Campaign (1987-1998), parts of sub-Saharan Africa
GREP: Global Rinderpest Eradication Programme (1993 and continuing), worldwide activities
PACE: Pan African Programme for the Control of Epizootics (1999-2007), parts of sub-Saharan Africa
SERECU: Somali Ecosystem Rinderpest Eradication Coordination Unit (2006-2010), Ethiopia, Kenya and Somalia

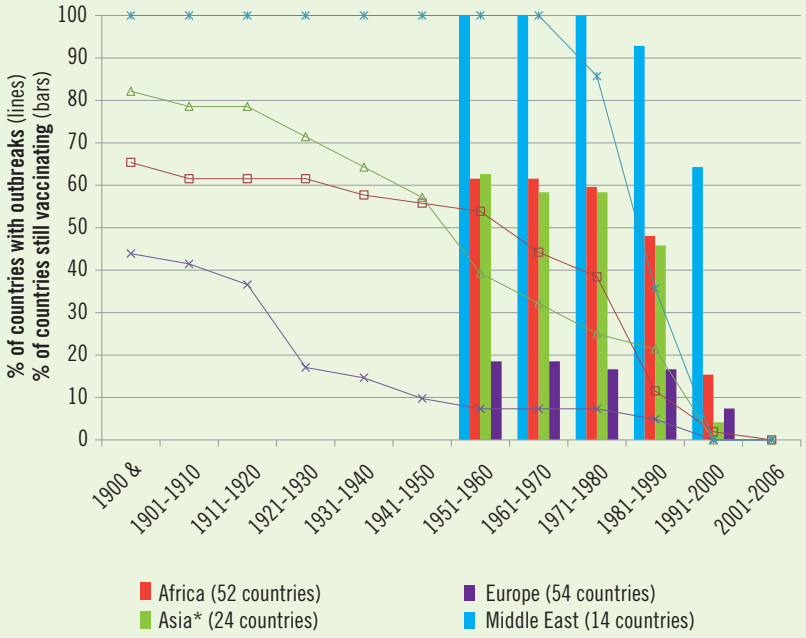


Fig. 2

Historical decline of outbreaks of rinderpest in historically infected regions (excluding Pacific-Oceania and the Americas) **over one century and overlay of a bar graph showing the decline in vaccinating countries** (reliable data only ~1955 onwards)

1900 &: countries that could document that the last outbreak took place in the 19th Century or that rinderpest never occurred in their country were accounted for

Asia*: only continental Asia and neighbouring Asian island nations that faced a significant rinderpest risk or rinderpest outbreaks

movement control and stamping out of affected herds, the eradication of rinderpest was achieved in most areas of the world. However, the disappearance of clinical disease led to the discontinuation of vaccination campaigns, even in regions where there were no effective measures against a potential re-introduction of the virus. As a consequence, a devastating re-emergence and spread of the virus took place on the African continent in the 1980s, beginning in East Africa. The continuous development of better-adapted diagnostic tools, vaccines and surveillance methods was necessary to support a second round of control programmes, to survey and eradicate the disease, region by region, once and for all (Fig. 2).

Along with these large-scale rinderpest eradication campaigns, OIE Member Countries expressed the need for more guidance on how to conduct and standardise rinderpest surveillance, so that they could substantiate their claims of freedom from rinderpest to their trading partners or assess whether a neighbouring or exporting country's surveillance was trustworthy and transparent. An OIE Expert Consultation on Rinderpest Surveillance Systems (Paris, August 1989) led to the development of the widely known 'OIE Rinderpest Pathway', a step-by-step process that, if followed properly, would lead to certified freedom from rinderpest infection within five years of ceasing vaccination. These 'Recommended Standards for Epidemiological Surveillance for Rinderpest', developed by experts, were discussed during several General Sessions,

amended in the then 'Foot and Mouth Disease and Other Epizootics Commission' (now the Scientific Commission for Animal Diseases), and finally adopted by the OIE Members in 1998. These surveillance guidelines for rinderpest paved the way for the certification process of rinderpest-free status for countries and zones.

As agreed upon in 1995, by resolution in the International Committee (4), rinderpest became the second disease to be included in the procedures of official recognition of countries' disease status (just after foot and mouth disease). In the year 2000, the International Committee (renamed 'World Assembly of Delegates' in 2009) adopted the first resolution publishing a baseline list of Member Countries that were free from rinderpest infection (5). The OIE Members included in this very first list had previously documented that they met the requirements for rinderpest freedom based on historical grounds, in full accordance with the corresponding provisions of the *Terrestrial Animal Health Code*. From 2002 to 2009, the official list also included countries that fulfilled the criteria for being free from clinical rinderpest, or applied zoning to parts of their territory.

From 1999 to February 2011, more than 260 countries presented dossiers and requested that their rinderpest status be evaluated by experts and the Scientific Commission for Animal Diseases and, today, 198 countries are officially recognised as being free from rinderpest infection by the OIE (Fig. 3). This equals the number of countries in the world that have rinderpest-susceptible animals, including both OIE Member Countries and non-OIE Members. Despite enthusiastic voices who had declared back in the 1960s that worldwide rinderpest eradication would soon be achieved, experience showed that the last and most difficult steps of the global eradication of rinderpest were far more time-consuming, and devoured more resources, than had been expected.

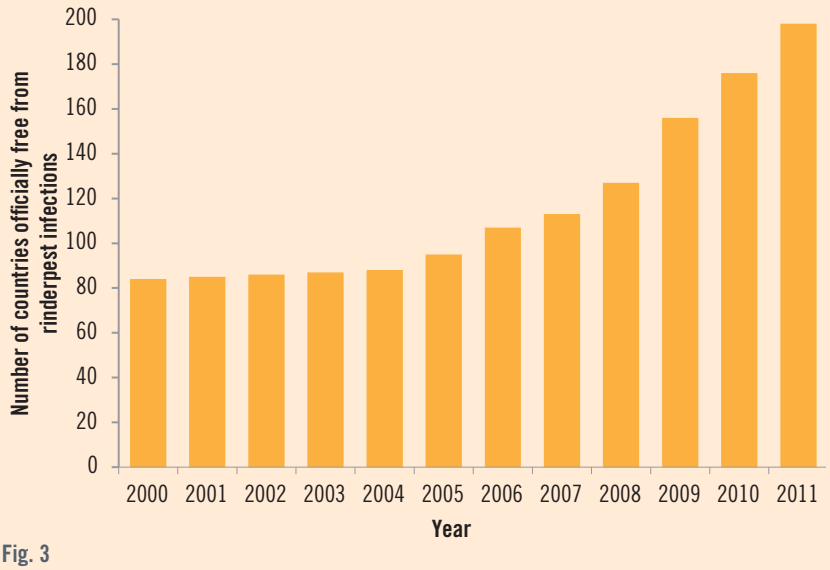


Fig. 3

Cumulative progress in disease status evaluation and official OIE recognition of countries as being free from rinderpest infection (198 countries in total, OIE Members and non-OIE Members)

The global eradication of rinderpest is a major achievement for humanity, and in particular for veterinary professionals. This process has witnessed many success stories but also taught some bitter lessons. The eradication of rinderpest would not have been possible without international solidarity, such as the support of the OIE in chairing the advisory committee of the Pan African Programme for the Control of Epizootics (PACE), as well as the firm commitment of many international and regional

organisations, including FAO and the African Union. Equally, it could not have been achieved without continual encouragement to all countries to develop transparency in their disease situations and the OIE's efforts to disseminate new scientific information, or without the continued support from generous donors, such as the European Union. This being said, the main contribution to the global eradication of rinderpest came from the countries themselves, and countless numbers of highly dedicated individuals, whether farmers, veterinarians, scientists or local community workers. This, however, is not the end of the fight against rinderpest. Clinical samples containing rinderpest virus and virus isolates are still kept in a number of laboratories in the world. These materials must be either safely destroyed or transferred to bio-secure, approved laboratories. In case the virus is ever re-introduced into the environment, accidentally or intentionally, the international community and individual countries must put effective surveillance and notification mechanisms into place, including rumour tracking and rapid investigation. Contingency plans should be established at the international and national levels, ensuring that vaccines are made available in a timely manner, in case of emergency. While the disappearance of the disease has, we hope, forever relieved countries and farmers from heavy economic losses due to outbreaks, investment in post-eradication activities must continue. The OIE is committed to working closely with its partners, in particular the FAO, to keep the world free from rinderpest.

Once again, the strategies employed and the actions taken by the OIE and its partners in the fight against rinderpest should not be forgotten. May the lessons learned from its eradication remain alive, particularly in view of the other animal diseases, such as peste des petits ruminants and foot and mouth disease, which could eventually be eradicated in the future.

References

1. Institute for Farming and Veterinary Medicine in Tropical Countries (IEMVT) (1965). – Recherches sur la persistance du virus pestique dans les viandes réfrigérées provenant de bovins atteints de peste bovine et sur la possibilité de propagation de celle-ci par les viandes d'animaux exportées des régions infectées. Final Report. IEMVT, Paris.

2. World Organisation of Animal Health (OIE) (1947). – Resolution No. I, Rinderpest, adopted during the 15th General Session of the Committee of the OIE, Paris. *Bull. Off. int. Epiz.*, **28**, 389-390.

3. World Organisation of Animal Health (OIE) (1948). – Resolution No. I, Rinderpest, adopted during the 16th General Session of the Committee of the OIE, Paris. *Bull. Off. int. Epiz.*, **30**, 431-432.

4. World Organisation of Animal Health (OIE) (1995). – Resolution No. XIV, Establishment of a list of countries which are free of rinderpest, adopted during the International Committee of the OIE on 19 May 1995. *In* 63rd General Session, OIE, Paris, p. 81.

5. World Organisation of Animal Health (OIE) (2000). – Resolution No. XIII, Recognition of Member Countries free from rinderpest infection, adopted by the International Committee of the OIE on 24 May 2000. *In* 68th General Session, OIE, Paris, 97.

OIE stand: a new design from concept… to reality

We were looking for a new design for our stands, one which would be clearly visible at the various conferences at which we exhibit and which had photographs that would attract attention and encourage conference goers to visit the stand and ask for additional information about the OIE. We chose green as the predominant colour because of its extraordinary visual power and its association with energy and the environment. The new stand had to be easy to transport and flexible enough to be adapted to the various venues throughout the world at which the OIE usually exhibits. We wanted between two and four panels which could be used separately or together in various combinations, depending on the needs of the particular conference.

The results could not be more satisfactory: visits to the stand and requests for information about the organisation have increased since the beginning of 2011 and sales of publications are up by 16%!

Veterinary Education Conference, May 2011, Lyons

© T. Benicasa

VIV Asia, March 2011, Bangkok

© Q. Tran

OIE Global Conference on Wildlife Animal Health and Biodiversity, February 2011, Paris

© T. Benicasa

new OIE publications

April 2011
Trilingual publication
ISBN 978-92-9044-837-2
Format: 21 x 29.7 cm
372 pp.
Price: **60** €

The spread of pathogens through international trade

Stuart C. MacDiarmid, ed.

Vol. **30** (1)

Concerns about the spread of pathogens through trade are not always well-founded. Careful examination of published scientific literature and application of the import risk analysis methodology developed by the OIE, strongly support the view that international trade based on the sanitary standards of the OIE can be conducted with little risk of spreading pathogens of animal and public health importance.

This issue of the *Review* brings together an important collection of well-researched papers by internationally-recognised experts. It aims to document the real, rather than hypothetical, risks from international trade in animals and animal products and compares these with the risks from some of the other means by which pathogens are disseminated. The measures available to mitigate risks are also examined.

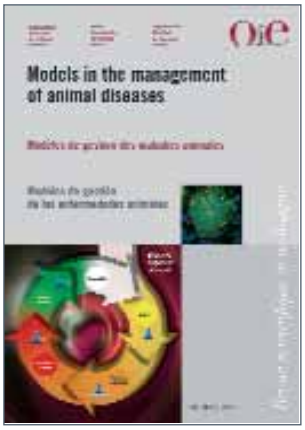
July 2011
In English
ISBN 978-92-9044-844-0
Format: 21 x 29,7 cm
246 pp.
Prix : **25** €

Evolving veterinary education for a safer world

Proceedings of the First OIE Global Conference, OIE Headquarters, Paris, France,12-14 October 2009

In a rapidly changing world, veterinary education must face new challenges and continually evolve to meet societal demands in the field of prevention and control of diseases food security, food safety, public health and animal welfare. Appropriate education and training have a direct effect on the quality and performance of public and private components of Veterinary Services. Therefore, the World Organisation for Animal Health (OIE) considering the issue of initial and continuous veterinary education is part of its commitment to encouraging its Members to strengthen the animal health policies and activities of their national Veterinary Services, has decided to organise the first OIE Global conference on veterinary education in 2009.

World Deans and Directors of veterinary training institutions and key national veterinary education policy makers, now speaking with one voice, have provided great collaborative work for the making of the first global recommendations on veterinary education. These OIE Conference proceedings will provide a clear vision of the way veterinary education must evolve worldwide in order to comply with societal demands and with the concept of Global Public Good and the role the OIE and partners will undertake in supporting this evolution.



August 2011
Trilingual publication
ISBN 978-92-9044-836-5
Format: 21 x 29.7 cm
Approx. 350 pp.
Price: **60** €

Models in the management of animal diseases

P. Willeberg, ed.

Vol. **30** (2)

The missions of the OIE include the design of surveillance and control methods of infectious transboundary animal diseases (including zoonoses), the provision of guarantees concerning veterinary public health, food safety, and the promotion of animal welfare. Moreover, in accordance with the Agreement on the Application of Sanitary and Phytosanitary Measures of the World Trade Organization (WTO), the OIE is responsible for setting standards regarding safety of international trade in animals and animal products.

The purpose of this issue of the *Review* is to encourage and facilitate the worldwide improvement in the understanding of the ways in which national Veterinary Services and partners may make use of models in the prevention and control of animal diseases.

Staff movements

Departure

Regional Activities Department

Dr Nilton Antônio de Morais

Dr Nilton Antônio de Morais, chargé de mission for the Regional Activities Department (RAD) first joined the OIE in June 2008, having been seconded from the Brazilian Ministry of Agriculture, Livestock and Food Supply.

Dr Morais was involved in the preparation of implementing the pilot compartmentalisation project for avian influenza and Newcastle disease in the commercial poultry sector of Brazil, a joint initiative between the OIE and the Brazilian Government. In addition, he particularly worked with the RAD on many activities for the OIE Working Group on Legislation, the OIE evaluation of the Performance of Veterinary Services (PVS) task force and on capacity building for OIE National Focal Points. He consolidated his experience as a certified OIE PVS and gap analysis expert by conducting missions and aiding in the coordination of the OIE global programme for strengthening Veterinary Services.
In November 2010, Dr Morais left the OIE to resume his previous responsibilities at the Brazilian Ministry.

Arrivals

Regional Activities Department

Dr Bernardo Todeschini

On 17 January 2011, Dr Bernardo Todeschini took over the position of chargé de mission at the Regional Activities Department. Dr Todeschini was born in Caxias do Sul, Brazil, and graduated from the Federal University of Rio Grande do Sul in 1990. He went on to work as a private veterinarian in the field of dairy and meat production in the cattle sector, in five Brazilian states. In 2002 he joined the Official Veterinary Service of the Brazilian Ministry of Agriculture, Livestock and Food Supply (MAPA), and served as Chief Veterinary Officer for the State of Rio Grande do Sul between 2004 and 2011. He worked in a number of Brazilian states and MERCOSUR countries in areas such as foot and mouth disease, rabies and bovine spongiform encephalopathy, as well as the evaluation of the Veterinary Services. He has experience of managing animal health programmes and directing animal disease outbreak control activities. His academic training includes two MBAs: in international trade and in strategic planning for implementing the PVS Tool in the region. He also has a Master in Preventive Veterinary Medicine, specialising in Epidemiology, for which he worked on the development of computer systems for epidemiological surveillance and the statistical treatment of secondary data. He also worked as visiting researcher at the University of New England, Australia, where he studied strategic alliances in the veterinary care system.

Regional Activities Department

Ms Margherita Recchia

Ms Margherita Recchia joined the OIE Regional Activities Department as secretary on 3 January 2011. She was seconded to the OIE Headquarters by the OIE Collaborating Centre for veterinary training, epidemiology, food safety and animal welfare (Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise 'G. Caporale' in Teramo, Italy).

With a Master's degree in humanities from 'Roma Tre' University in Rome, Margherita Recchia began her professional career in problem management relating to communication strategies. In the field of animal health, she worked at the Institute G. Caporale training unit in Teramo, in support of the planning, organisation, implementation and evaluation of training courses and workshops, study visits and OIE twinning projects, at both national and international levels. She also helped to organise and stage five training workshops on animal welfare as part of the European Commission's 'Better Training for Safer Food' initiative.

Ms Recchia has been assigned to the OIE Regional Activities Department to help organise and evaluate regional events in the capacity-building programme, including seminars, conferences and workshops for Delegates and national focal points.

Activities of the Communication Unit

‘Vets in Your Daily Life’: inspiring future generations of veterinarians

In front of a room full of journalists, Bernard Vallat, Director General of the OIE, and Bernard Van Goethem, Acting Deputy Director General of the Food Chain for the European Commission’s Directorate General for Health and Consumer Policy (DG SANCO), launched a joint campaign to celebrate World Veterinary Year 2011. Six video clips, highlighting the diversity of the day-to-day work of veterinarians, were presented to the press. Furthermore, an internet-based worldwide competition for photos illustrating the relationship between veterinarians and animals was announced. One winner was selected from each of the five regions of the globe – Africa, Europe, Asia and the Pacific, the Americas and the Middle East – and was awarded €1,000 worth of photographic equipment at the European Union Veterinary Week conference, taking place from 19 to 20 May 2011, in Brussels, Belgium. The overall winner was awarded €3,000 worth of photographic equipment and an all-expenses-paid trip to the prize-giving ceremony at the 79th General Session of the OIE in Paris, in May 2011. The competition jury consisted of five experts from the fields of photography and the arts, as well as a representative from the OIE and another from the European Commission.

This press conference was also an opportunity for the French Committee organising the VET2011 celebrations to showcase the series of events taking place all over France this year, to mark the 250th anniversary of the veterinary profession. An official ceremony at Versailles on 24 January 2011 kicked off the festivities.

Read more about it on page 63.

OIE Headquearters

The press conference

Official ceremony in Versailles, 24 January 2011

Activities of the Scientific and Technical Department

Summaries of the OIE *ad hoc* Group, Specialist Commission and Working Group Meetings

January to March 2011

Ad hoc Group on the Evaluation of the Rinderpest Disease Status of Members

OIE Headquarters, Paris, 11-12 January 2011

Seven dossiers from OIE Member Countries and one dossier from a non-OIE Member, applying for recognition of their rinderpest-free status, were received and analysed and all of them were recommended for acceptance. Thus, all countries with rinderpest-susceptible livestock have now been evaluated and are recognised as rinderpest-free. The experts also broadly discussed amendments to the existing rinderpest chapter of the *Terrestrial Animal Health Code* (the *Terrestrial Code*) for the global post-eradication era and a list of potential implications of changes to the other chapters of the *Terrestrial Code* and the *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals* (the *Terrestrial Manual*). Finally, the Group also made recommendations on the use of diagnostic kits containing rinderpest virus for the global post-eradication era.

A*d hoc* Group on the Scientific Partnerships among OIE Reference Laboratories and Collaborating Centres

OIE Headquarters, Paris, 18-20 January 2011

This meeting reviewed the mandate of and internal rules for OIE Collaborating Centres and developed proposals for their amendment. It also reviewed the proposed amendment to the mandate and internal rules of OIE Reference Laboratories, arising from the previous meeting, and adjusted them for consistency.

The *ad hoc* Group proposed that there should be only one Collaborating Centre per region for the same topic. Should other applications be received within the same region, the centres would be asked to work together in a network. When possible certain regions may need to be broken down into sub-regions, allowing exceptionnally Collaborating Centres to be designated for each sub-region, taking into consideration the volume of worldwide demand for specific areas of expertise. Despite its approval being given on a regional basis, an OIE Collaborating Centre has a global mandate. The designation of Collaborating Centres should be predominantly driven by demand, as opposed to being driven by proposal.

Ad hoc Group on the Evaluation of Contagious Bovine Pleuropneumonia (CBPP) disease status

OIE Headquarters, Paris, 25-27 January 2011

Three dossiers from OIE Member Countries were evaluated by the Group for official recognition of their CBPP-free status and compliance with the provisions of the *Terrestrial Code*. One was recommended for recognition of its CBPP-free status, as sought. The two other dossiers were referred back to the applicant countries. The Group also reviewed the latest scientific information on the epidemiological role of yaks (*Bos grunniens*) and their susceptibility to CBPP and suggested that the yak should be considered a CBPP-susceptible species.

Scientific Commission for Animal Diseases

OIE Headquarters, Paris, 1-4 February 2011

During its February meeting, the Commission reviewed salient points from the report of the September meeting, which had been held from 7 to 10 September 2010. The Commission welcomed the OIE's new policy on statements of confidentiality and potential conflicts of interest now endorsed by the OIE Council, as this would not only make its work easier but also add credibility to the procedures for recognising official disease status. The Commission conveyed its concern on the slow progress of editing the *Guide on Terrestrial Animal Health Surveillance* and reiterated the urgent need to expedite and finalise the work, which has been expected by OIE Members for some time. Following the recent re-occurrence of disease in Members with an official disease-free status, the Commission identified the immediate need for more direct

involvement in monitoring the maintenance of disease-free status by Members, in full compliance with the requirements of the *Terrestrial Code*.

Eight reports submitted by the *ad hoc* Groups and the Working Group on Wildlife Disease were reviewed. The *ad hoc* Groups' recommendations on their evaluations of official disease status requests from various countries (for rinderpest-free status, CBPP-free status, FMD-free status and a risk status for bovine spongiform encephalopathy) were endorsed. The Commission commented extensively on the recommendations of the *ad hoc* Group on the Evaluation of Rinderpest Disease Status of Members, which has drafted a revised rinderpest chapter for the *Terrestrial Code*, addressing the global eradication of this disease and attempting to ensure that attention is paid to the important issues in this post-eradication period. The *ad hoc* Group on the Official Disease Status Recognition of Classical Swine Fever provided a first draft for a revised *Terrestrial Code* chapter on this disease. It was concluded that in-depth discussion between the Scientific and Code Commissions was needed to determine a more consistent approach for OIE-listed diseases, where the presence of the disease in wildlife might have an effect on the recognition of disease-free zones and other trade-facilitating initiatives. The draft chapter was referred back to the *ad hoc* Group so that the Group could also take into consideration CSF-free status with vaccination. The Commission also praised the progress made by an *ad hoc* Group on Antimicrobial Resistance Monitoring in revising the *Terrestrial Code* chapters related to this topic.

Many comments were received from Member Countries on the new rabies chapter, and the Commission decided to refer these responses back to the *ad hoc* Group on Rabies, scheduled to meet in April, for its consideration. Much appreciation was voiced for the important contribution made by members of the Working Group on Wildlife Diseases to the OIE Wildlife Conference of February 2011. The Commission discussed the reporting of non-listed wildlife diseases and their potential impact on trade with the Chair of the Working Group, as noted in the Group's report. It was acknowledged that some aspects of wildlife disease reporting require further discussion within the Working Group, in liaison with the Animal Health Information Department of the OIE. The Commission reiterated the need for members of the Working Group to contribute to OIE *ad hoc* Groups on diseases or topics where wildlife was implicated, based on positive feedback from such collaborations.

The Commission also discussed once again the evolution of the Food and Agriculture Organization of the United Nations- (FAO-) OIE framework for the global strategy for FMD control, including the activities of the Global Framework for the Progressive Control of Transboundary Animal Diseases (GF-TADs) and the potential contributions of the FAO-OIE FMD reference laboratory network and the *ad hoc* Group on FMD. In addition, the Commission reaffirmed its role as the advisory body to the OIE on the ' One Health' programme, as outlined in the Fifth OIE Strategic Plan.

Finally, the Scientific and Code Commissions held a joint meeting to address several supplementary topics included in chapters of the *Terrestrial Code*, which were of common interest and required mutual expertise. The Scientific Commission also addressed a number of OIE Member comments on those chapters of the *Terrestrial Code* which had already been circulated to Member Countries.

Biological Standards Commission

OIE Headquarters, Paris, 8-10 February 2011

The OIE Biological Standards Commission continued to work on its regular items: reviewing new applications for Collaborating Centre and Reference Laboratory status, proposed changes of designated experts and proposals for twinning projects; international standardisation/ harmonisation of diagnostic tests and reference materials; the *Terrestrial Manual*, etc.

The Commission endorsed applications for an OIE Collaborating Centre for Veterinary Drug Regulatory Programmes (the Center for Veterinary Medicine, Food and Drug Administration, Rockville, Maryland, USA), a Collaborating Centre for Epidemiology and Diagnosis of Emerging and Re-Emerging and Transboundary

Diseases of Animals in the Caribbean and Central America (Centro Nacional de Sanidad Agropecuaria [CENSA], Cuba) and a Collaborating Centre for Research and Diagnosis of Emerging and Existing Pathogens of Wildlife. All these applications will be submitted to the OIE Council for approval.

The Commission accepted two requests to designate OIE Reference Laboratories: for equine influenza and equine rhinopneumonitis (the Free University of Berlin, Germany), and for anaplasmosis and babesiosis (Centro Nacional de Servicios de Constatación en Salud Animal [CENAPA], Mexico). These requests were submitted for endorsement by the OIE Council.

With regard to the twinning programme, the Commission was informed of and the members invited to participate in a twinning feedback workshop from 30 to 31 March 2011.

The annual reports of Reference Laboratory and Collaborating Centre activities in 2010 were received and analysed. This set of reports was found to be very impressive and demonstrated the level of commitment from the global scientific community to the work of the OIE.

The Commission endorsed the report of the second Meeting of the *ad hoc* Group on Scientific Partnerships. The proposed amendments to the mandate, internal rules and guidelines for applications for Collaborating Centre status were transferred to the OIE Council. As these texts are an integral part of the Basic Texts of the OIE, their amendments would be formally proposed by the OIE Council for adoption by the World Assembly of Delegates in May 2011. The Commission also endorsed the conclusions and recommendations of the Expert Surveillance Panel on Equine influenza Vaccine Composition on the composition of equine influenza vaccines for 2010 (see page 50).

The terms of reference for an OIE *ad hoc* Group on the Quality of Foot and Mouth Disease Vaccines and a further *ad hoc* Group on Validation of Tests in Wildlife were agreed and the dates for both meetings noted. The Commission reiterated the benefits of developing pragmatic OIE guidance on biosafety and biosecurity in veterinary laboratories, in collaboration with the World Health Organization (WHO), through an *ad hoc* Group on Biosafety/Biocontainment Standards for Veterinary Laboratories. In this regard, the Commission agreed to the principle of developing a training programme on validation based on the OIE draft *Terrestrial Manual* chapter and 'best practices' appendices.

Finally, an update on the OIE/FAO Network of Expertise on Animal Influenzas (OFFLU) was provided. The OFFLU network has developed considerably since its launch in 2005, with more than 60 world-leading experts on animal influenza now participating in OFFLU projects. Achievements include much stronger functional collaboration with the public health sector; improved laboratory capacity in countries on all continents; widely disseminated guidance on surveillance, control, and biosafety; setting an agenda for animal influenza research; and much-improved sharing of information and biological materials.

A*d hoc* Group on Epidemiology

OIE Headquarters, Paris, 1-3 March 2011

As part of their task in drafting generic guidelines on disease control for OIE Members, the epidemiological experts significantly expanded on the initial outline provided at the last meeting, as well as reviewing additional documents. It was agreed that a first version of this guidance document would be submitted to the Scientific Commission with the recommendation to consider it also as a separate *Terrestrial Code* chapter, and as a guide for Members wishing to request OIE endorsement of their national foot and mouth disease (FMD) control programme. The Group further commented on outcomes of the OIE's Technical Consultation in Support of the OIE Emerging Pandemic Threats Programme activities, held at the OIE in January 2011, which explored a number of questions on appropriate surveillance for emerging animal diseases.

A*d hoc* Group on Epizootic Haemorrhagic Disease

OIE Headquarters, Paris, 15-16 March 2011

The Group analysed several different documents, including the scientific opinion of the European Food Safety Authority on epizootic haemorrhagic disease (EHD) of 2009, which included a comprehensive review of the literature, to develop the new chapter on EHD for the *Terrestrial Code*. The experts recognised that there is a considerable lack of knowledge on important aspects of the epidemiology and pathogenesis of the EHD virus. In developing the new draft chapter for EHD, the Group used the bluetongue chapter of the *Terrestrial Code* as a template. The experts also recommended matters for consideration by those reviewing the current chapters on bluetongue and EHD for the *Terrestrial Manual*.

A*d hoc* Group on Vaccine Quality related to Foot and Mouth Disease

OIE Headquarters, Paris, 29-31 March 2011

This new Group was convened to provide comprehensive guidance to Members on vaccine quality related to FMD, covering the issues of production, control and marketing, to be published in the *Terrestrial Manual*. The Group held intensive discussions on the suitability of certain production methods, various methods of quality assurance and quality control, and the benefits for the producers. The Group then developed a structure for a new chapter on FMD for the *Terrestrial Manual*, and used this structure to partially revise the existing chapter. The experts also recommended updating general chapters 1.1.8. and 1.1.9. of the *Terrestrial Manual*. The Group was unable to complete its task, due to lack of time, and another meeting will be scheduled in June 2011.

Activities of the International Trade Department

Summaries of the OIE *ad hoc* Group, Specialist Commission and Working Group Meetings

December 2010-February 2011

Ad hoc Group on the OIE List of Aquatic Animal Diseases

(Finfish Team)

Electronic consultations in December 2010 and January 2011

The *ad hoc* Group reviewed the assessment of pancreas disease, provided by Chile, against the criteria for listing aquatic animal diseases (Chapter 1.2.) and also conducted an independent assessment. The *ad hoc* Group concluded that pancreas disease should not be listed as there was insufficient evidence to satisfy criteria 6 and 7 in Article 1.2.1. The *ad hoc* Group report was submitted to the Aquatic Animals Commission for consideration at its meeting in February 2011.

Ad hoc Group on Safety of Products Derived from Aquatic Animals

OIE Headquarters, Paris, 25-26 January 2011

The *ad hoc* Group reviewed Members' comments on proposed amendments to Article 5.3.2. (criteria); Article 9.5.3. (Taura syndrome); Article 10.1.3. (epizootic haematopoietic necrosis); and on the amendments to aquatic products listed in Articles X.X.3. and X.X.11. (amphibians and fish)/X.X.12. (crustaceans and molluscs) for all disease chapters, except those on epizootic haematopoietic necrosis, Taura syndrome and *Bonamia ostreae*, which have already been adopted. The *ad hoc* Group then made the relevant amendments and submitted its report to the Aquatic Animals Commission for consideration at its meeting in February 2011.

Ad hoc Group on Pathogen Differentiation for Aquatic Animal Diseases

OIE Headquarters, Paris, 27-28 January 2011

This *ad hoc* Group met for the first time and started to develop a set of criteria that would enable meaningful differentiation among pathogen variants. These criteria will represent general principles applicable to all pathogens and will require precise definition for each individual pathogen. The *ad hoc* Group recommended the continuing development of these criteria and the provision of a completed example, based on infectious salmon anaemia virus. The *ad hoc* Group report was submitted to the Aquatic Animals Commission for consideration at its meeting in February 2011.

Terrestrial Animal Health Standards Commission

OIE Headquarters, Paris, 1-11 February 2011

The Commission met from 1 February to 11 February in Paris, to address Member comments received after the last meeting in September 2010, as well as the work done by the OIE *ad hoc* Groups (Parasitic Zoonoses; Laboratory Animal Welfare; Veterinary Education) and the OIE Working Groups (Animal Welfare; Animal Production and Food Safety). The Commission also held meetings with the Scientific Commission for Animal Diseases on issues relevant to the work of the Commission.

The Commission examined *Terrestrial Animal Health Code* chapters taking Member Countries' comments into consideration. The Commission will present the following revised *Terrestrial Code* chapters and proposed new chapters for adoption at the 79th General Session in May 2011:

– the Glossary to the *Terrestrial Code*
– notification of diseases and epidemiological information
– criteria for listing diseases
– status for OIE-listed diseases
– Veterinary Services
– evaluation of Veterinary Services
– communication

Participants of the Commission

– design and implementation of identification systems to achieve animal traceability
– zoning and compartmentalisation
– application of compartmentalisation
– general hygiene in semen collection and processing centres
– collection and processing of bovine, small ruminant and porcine semen
– collection and processing of *in vivo*-derived embryos from livestock and horses
– disinfection
– certification procedures
– OIE procedures relevant to the Agreement on the Application of Sanitary and Phyosanitary Measures
– certification for non-human primates
– certification for animal products
– control of hazards of animal health and public health importance in animal feed
– biosecurity procedures in poultry production
– prevention, detection and control of salmonella in poultry

– transport of animals by land
– transport of animals by air
– slaughter of animals
– killing of animals for disease control purposes
– stray dog population control
– use of animals in research and education
– animal welfare and broiler chicken production systems
– anthrax
– Aujeszky's disease
– bluetongue
– foot and mouth disease
– vesicular stomatitis
– avian influenza
– Newcastle disease
– contagious bovine pleuropneumonia
– lumpy skin disease
– equine influenza
– equine viral arteritis
– *Chlamydophila abortus* infection (enzootic abortion of ewes)
– scrapie
– classical swine fever.

The Commission will present the following revised chapters and proposed new chapters for Members' comments. All such comments will then be reviewed by the relevant *ad hoc* groups and working groups during the next Commission meeting, scheduled for September 2011:
– criteria for listing diseases
– veterinary legislation
– harmonisation of national antimicrobial resistance surveillance and monitoring programmes
– monitoring the quantities of antimicrobials used in animal husbandry
– African horse sickness
– echinococcosis/hydatidosis
– *Trichinella* infection.

Noting the discussion of the *ad hoc* Group on Notification of Animal Diseases and Pathogenic Agents, held from June to July in 2010, and taking Member Countries' comments into account, it was concluded that chapters on delisted diseases (Teschovirus encephalomyelitis, avian tuberculosis, duck virus enteritis, fowl cholera and Marek's disease) would be proposed for deletion at the 79th General Session in May 2011.

Ad hoc Group on Responsible Use of Antimicrobials in Aquatic Animals

Electronic consultations in February 2011

The *ad hoc* Group reviewed Members' comments on the draft Chapter 6.3., 'Principles for responsible and prudent use of antimicrobial agents', and amended the chapter as needed. The *ad hoc* Group report was submitted to the Aquatic Animals Commission for consideration at its meeting in February 2011.

Aquatic Animal Health Standards Commission

OIE Headquarters, Paris, 14-18 February 2011

The Aquatic Animals Commission met from 14 to 18 February 2011, to address the comments that it received from Members on the revised and new texts circulated in the report of the October 2010 meeting. Also discussed was the work carried out by the OIE *ad hoc* Groups on:
– Safety of Products Derived from Aquatic Animals
– Pathogen Differentiation for Aquatic Animal Diseases
– OIE List of Aquatic Animal Diseases (Finfish Team)
– Responsible Use of Antimicrobials in Aquatic Animals.

The Commission will present the following revised *Aquatic Animal Health Code* chapters and proposed new chapters for adoption at the 79th General Session in May 2011:
– glossary
– criteria for listing aquatic animal diseases (Chapter 1.2.)
– diseases listed by the OIE (Chapter 1.3.)
– principles for responsible and prudent use of antimicrobial agents in veterinary medicine (new Chapter 6.3.)
– disinfection of salmonid eggs (Articles 10.4.13., 10.5.13. and Article 10.9.13.)

Activities of the International Trade Department

– quality of aquatic animal health services (Chapter 3.1.)
– criteria to assess safety of aquatic animal commodities (Chapter 5.3.)
– control of hazards in aquatic animal feeds (Chapter 6.1.)
– introduction to the recommendations for controlling antimicrobial resistance (Chapter 6.2.)
– welfare of farmed fish during transport (Chapter 7.2.)
– welfare aspects of stunning and killing farmed fish for human consumption (Chapter 7.3.)
– Taura syndrome (Article 9.5.3.)
– epizootic haematopoietic necrosis (Chapter 10.1.3.)
– listed aquatic commodities in Articles X.X.3. and X.X.11. (amphibians and fish)/X.X.12. (crustaceans and molluscs)
– all disease chapters (except those on epizootic haematopoietic necrosis, Taura syndrome and *Bonamia ostreae*).

The Aquatic Animals Commission will present the following proposed new chapters for adoption into the *Aquatic Manual* at the 79th General Session in May 2011: infection with *Batrachochytrium dendrobatidis* and infection with ranavirus.

The Aquatic Animals Commission will present the following revised chapters and proposed new chapters for comments from Member Countries:
– in the *Aquatic Code*: Killing of farmed fish for disease control purposes (new Chapter 7.4.)
– in the A*quatic Manual*: Criteria for listing species as susceptible to infection with a specific pathogen.

The Aquatic Animals Commission also updated its work programme for 2011 to 2012.

regional activities

Staff movements

OIE Sub-Regional Representation
Brussels, Belgium

Arrival

Dr Nadège Leboucq

Nadège Leboucq, graduate in veterinary medicine from the Veterinary School of Toulouse, France, took up her duties as OIE Sub-Regional Representative in Brussels in January 2011. Nadège's career has essentially taken an international route, with posts supporting the development of livestock breeding and animal health in national administrations (Côte d'Ivoire) and in such international institutions as the World Bank in Washington, D.C. and the FAO[1] in Rome.

This professional journey has enabled her to acquire a comprehensive understanding of the institutional dynamics and stakes involved in promoting the inclusion of breeding and animal health on the international agenda, particularly in the area of development (public health, food safety, sustainable management of natural resources). In the course of her previous appointments, she worked in close collaboration with the OIE, notably on the GF-TADS[2] framework.

In Brussels, Nadège continues the work programme that had been put in place in 2007, the year in which the Sub-Regional Representation first began, by ensuring an efficient interface between OIE Headquarters and European organisations and institutions and, at the same time, providing technical support to the OIE Regional Representation for Eastern Europe (based in Sofia) on all the files of the Fifth OIE Strategic Plan, particularly those related to capacity-strengthening programmes for Veterinary Services. She is also in charge of the GF-TADS Secretariat for Europe, whose presidency is ensured by the European Union.

Nadège Leboucq replaces Caroline Planté, who has worked at the Sub-Regional Representation in Brussels since its opening, officiating there from 2007 to 2011.

1- FAO: Food and Agriculture Organization of the United Nations
2- GF-TADs: Joint FAO/OIE Global Framework for the Progressive Control of Transboundary Animal Diseases

Departure

Dr Caroline Planté

Doctor Caroline Planté left the OIE Sub-Regional Representation in Brussels on 15 December 2010. Dr Planté had occupied the position of Sub-Regional Representative of the OIE for four years, after having spent two years as chargée de mission with the OIE Regional Representation for Africa (from 2005 to 2006) in Mali.
She was particularly involved in the establishment of the global programme for strengthening Veterinary Services in these regions, contributing to many training programmes, evaluation and support missions and other operations in more than 30 countries.

The OIE offers its very warmest thanks to Caroline for her commitment, professionalism and kindness, qualities which meant she was greatly appreciated as a colleague.

Meetings

Africa

OIE PVS Pathway Regional Seminar

Kigali, Rwanda, 14 February 2011

A Regional Seminar on the OIE PVS Pathway was held on 14 February 2011, back to back with the 19th Conference of the OIE Regional Commission for Africa. The participants had fruitful discussions on the global programme for strengthening Veterinary Services set up by the OIE and based on the OIE PVS Tool for the evaluation of performance of Veterinary Services (OIE PVS Pathway).

19th Conference of the OIE Regional Commission for Africa

Kigali, Rwanda, 14-18 February 2011

From left to right: Dr Yacouba Samake, OIE Regional Representative for Africa; Dr Bernard Vallat, Director General of the OIE; Dr Agnes Kalibata, Minister of Agriculture and Animal Resources of Rwanda; Dr Theogen Rutagwenda, Delegate of Rwanda to the OIE, and Dr Berhe Gebreegziabher, President of the OIE Regional Commission for Africa

At the kind invitation of the Government of Rwanda, the 19th Conference of the OIE Regional Commission for Africa was held in Kigali from 14 to 18 February 2011. A total of 122 participants attended the conference, comprising OIE Delegates and/or nominees from 40 Member Countries and four observer countries, along with senior officers from 15 regional and international organisations. Also present, were many representatives of the private sector, as well as those from private veterinary organisations from the region and host country.

During the opening ceremony, the Commission was honoured to welcome Dr Agnes Matilda Kalibata, Minister of Agriculture and Animal Resources of Rwanda, who addressed the audience and welcomed participants to Kigali, wishing them a fruitful conference.

At the closing ceremony, Mr Ernest Ruzindaza, Permanent Secretary of the Ministry of Agriculture and Animal Resources, thanked all those who

attended for their active participation and emphasised the relevance of the Conference's agenda to this region.

Dr Mehdi El Harrak, Secretary General of the OIE Scientific Standards Commission, presented a technical item entitled 'Main pathologies of camels, breeding of camels, constraints, benefits and perspectives'. He pointed out that new data have confirmed that camels are susceptible to a large number of pathogens and that there was an urgent need to implement a disease control programme that would improve the socioeconomic conditions of camel producers and their communities.

Dr Neo Joel Mapitse, Deputy Sub-Regional Representative for Southern Africa, presented the technical item entitled 'Livestock census in Africa as a vital tool for livestock disease surveillance and control'.

Reports on both technical items will be published in the *Compendium of Technical Items* – 2011.

Among other presentations, Prof. Eli Katunguka-Rwakishaya, presented the latest activities of the OIE Aquatic Animal Health Standards Commission, Dr Alex Thiermann, presented the activities of the OIE Terrestrial Animal Health Standards Commission, and Dr Francesco Berlingieri, Deputy Head of the OIE Animal Health Information Department, presented the animal health situation in African countries in 2010.

From left to right: Dr Bernard Vallat, Director General of the OIE; Dr Yacouba Samake, OIE Regional Representative for Africa; Dr Agnes Kalibata, Minister of Agriculture and Animal Resources of Rwanda; Dr Theogen Rutagwenda, Delegate of Rwanda to the OIE, and Dr Berhe Gebreegziabher, President of the OIE Regional Commission for Africa

Americas

Meeting to discuss and update OIE standards for adoption at the 79th OIE General Session

Buenos Aires, Argentina, 5-7 January 2011

The purpose of the meeting was to analyse and discuss the OIE standards that would be submitted to the 79th OIE General Session in May 2011 for consideration and adoption, as well as to announce the future work programme of the various OIE Specialist Commissions.

The meeting was attended by 63 representatives from 22 OIE Members and four non-members, as well as two international organisations, who interacted with representatives from OIE Specialist Commissions, the OIE's Scientific and Technical Department and International Trade Department and OIE *ad hoc* Groups and Working Groups.

Participants at the meeting

Based on expert presentations, several countries in the region submitted proposals and a number of common positions were reached, in particular on: improving the Spanish translation of OIE normative documents; the OIE proposal to include recognition for the status of classical swine fever and avian influenza; recommendations on varroosis, inspection of apiaries, rabies of herbivores, leptospirosis and conditions for validating national foot and mouth disease (FMD) control programmes and for regaining the status of FMD-free zone.

Southeast Asia

OIE Sub-Regional Workshop on Veterinary Education

Cebu, the Philippines, 18 February 2011

Participants at the meeting

On 18 February 2011, the OIE/AusAID Programme for Strengthening Veterinary Services in Southeast Asia (PSVS) Sub-Regional Workshop on Veterinary Education was held in Cebu City, the Philippines, organised by the OIE Sub-Regional Representation for Southeast Asia.

The objectives of the workshop were to inform participants of OIE activities in veterinary education, to discuss the role of veterinary schools, educational institutions and Veterinary Statutory Bodies (VSBs) in improving veterinary education, and to provide advice on how the proposed OIE/AusAID Stop

Transboundary Animal Diseases and Zoonoses (STANDZ) Initiative could support improvements in veterinary education in the sub-region. Those who attended included representatives from veterinary authorities, educational institutions, veterinary associations, VSBs, the Food and Agriculture Organization of the United Nations (FAO), and the Association of Southeast Asian Nations (ASEAN).

A series of background presentations paved the way for broad-ranging and positive plenary discussion. International speakers discussed:

– the role of the OIE in veterinary education
– perspectives from the South-East Asian Veterinary Schools Association (SEAVSA)
– the role of VSBs
– the need for veterinarians and veterinary para-professionals
– the STANDZ Initiative
– the activities of the OIE *ad hoc* Group on Veterinary Education, including Day 1 competencies.

Working groups used 'Strengths, Weaknesses, Opportunities and Threats' (SWOT) analysis and prioritisation techniques to consider veterinary education needs in Southeast Asia and make suggestions on what might be done. In addition, a series of recommendations were made for follow-up by the OIE Sub-Regional Representation for Southeast Asia, SEAVSA and other interested parties.

It was noted that the OIE and the United Nations Educational, Scientific and Cultural Organization (UNESCO) are preparing a draft Cooperation Agreement to be presented to their respective governing bodies, aimed at strengthening cooperation in the field of technical training and education. A key development, with implications for the veterinary profession and education, is the ASEAN Mutual Recognition Arrangement proposals which will come into effect in 2015. The OIE Sub-Regional Representation for Southeast Asia will work closely with key partners, such as SEAVSA, the Federation of Asian Veterinary Associations, FAO, ASEAN, veterinary authorities and, when relevant, with VSBs and educational institutions. The outcomes, recommendations and report of the Workshop will be considered by the OIE in light of the STANDZ proposal, and will also be forwarded to the OIE *ad hoc* Group on Veterinary Education and key partners for information and consideration.

From left to right around the table: G. Murray (OIE special advisor), J.-F. Chary (Vet2011), A. Bouchot (OIE), R. Abila (OIE) and T. Jorna (World Veterinary Association)

Joint Meeting of the South-East Asia and China Foot and Mouth Disease Laboratory and Epidemiology Networks (LabNet-EpiNet)

Pakchong, Thailand, 2–3 March 2011

The South-East Asia and China Foot and Mouth Disease (SEACFMD) Laboratory and Epidemiology Networks combined for the first time at a joint meeting (LabNet-EpiNet), held in Pakchong, Thailand, on 2 and 3 March 2011.

Since Brunei Darussalam, the People's Republic of China and Singapore all became new SEACFMD members in 2010, this was also the first time that Brunei and China had joined either of the LabNet or EpiNet meetings (which are usually conducted separately).

The objectives of the meeting were to establish closer collaboration between the two networks and to further identify the common constraints encountered in outbreak investigations and laboratory testing, with a view to making recommendations to overcome these constraints.

Dr Nguyen Tung, Vietnam, demonstrates the proper packaging of samples

The meeting was attended by the heads and representatives of FMD Laboratories and Epidemiology Sections from ten out of the 11 SEACFMD Member Countries; namely: Brunei, Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Thailand and Vietnam. Representatives of the OIE Sub-Regional Representation for Southeast Asia (SRR-SEA)[1], the Food and Agriculture Organization of the United Nations (FAO), the Regional Reference Laboratory (RRL), and FMD Laboratories and Epidemiology Units from the various regions of Thailand were also present at the meeting, which provided a forum for discussing the status of FMD across the Region. It was also an opportunity to hear updates on the activities conducted by the two networks and recommendations to improve field and laboratory capacities. Countries presented reports identifying both the progress and constraints encountered in the field and laboratories, as well as suggested activities to overcome such constraints.

Samples packaging exercise

The meeting emphasised that, in 2011, the SEACFMD Campaign will begin to strengthen vaccination programmes and that LabNet will play a crucial role in determining vaccine efficacy. Surveillance will also be strengthened by conducting more outbreak investigations in hot spots and by collecting more samples for sequencing. These objectives can only benefit from a stronger partnership between EpiNet and LabNet.

1- The OIE SRR-SEA manages the regional coordination of the SEACFMD Campaign

The participants

The separate session of EpiNet discussed three main topics:
– the status of disease-reporting systems and recommendations for the next twelve months
– capacity building of outbreak investigation and disease recognition
– reporting through the ARAHIS[2] regional core.

It was recognised that prompt reporting is crucial to be able to collect fresh, good quality samples for laboratory testing. Prompt reporting also leads the way to a prompt response to any outbreak. To facilitate this, sociological studies (e.g. 'knowledge, attitude, practices' or 'KAP' surveys) will be conducted in tandem with outbreak investigations. The aim of these studies will be to better understand farmer behaviour (e.g. reasons for not reporting) and also to provide information on public awareness. A framework for this study will be developed by the SEACFMD, with the assistance of a social scientist, and support from partners such as FAO.

The LabNet session included presentations on the transportation of infectious materials and the progress of RRL FMD research; namely:
– molecular diagnosis and epidemiology of FMD viruses in Southeast Asia during 2010 to 2011
– the antigenic variation of FMD field isolate viruses in Southeast Asia that caused an outbreak in 2010
– a preliminary study on a complementary enzyme-linked immunosorbent assay to detect antibodies against the FMD virus, using in-house reagents.

The meeting concluded with a visit to the FMD Regional Reference Laboratory in Pakchong and the dispatch of inter-laboratory reagents and samples to participating laboratories.

Among the key recommendations from the meeting are:
– to develop a brochure on sample collection and distribute it to all field officers to improve the quality of sample collection
– to develop a protocol for pre- and post-vaccination monitoring
– to review all the vaccine strains and the quality of vaccines used in the sub-region
– to conduct another round of inter-laboratory testing
– to conduct more vaccine matching of field isolates against local and commercial vaccine strains
– to examine ways of improving early detection and reporting of and response to FMD outbreaks
– to conduct more case studies on FMD outbreak investigations
– to conduct more studies on animal movement pathways.

As a result of the success of this first joint meeting, a joint meeting of LabNet and EpiNet will now be held every year.

2-ARAHIS: ASEAN Regional Animal Health Information System

17th Meeting of the OIE Sub-Commission for Foot and Mouth Disease in Southeast Asia and China

Bali, Indonesia, 7-11 March 2011

The 17th Meeting of the OIE Sub-Commission for Foot and Mouth Disease (FMD) in Southeast Asia and China was held from 7 to 11 March 2011 in Bali, Indonesia. The participants at the meeting included delegates and representatives from: Member Countries of the South-East Asia and China FMD Campaign (SEACFMD), other key countries, representatives of international organisations as well as members of the private sector and local observers.

The meeting included three major components:

- the 17th Meeting of the OIE Sub-Commission for FMD in South-East Asia and China
- an open session to discuss 'One Health'
- a closed session of the OIE Delegates of Southeast Asia.

One of the key outputs of the meeting was the endorsement of the revised SEACFMD 2020 'Roadmap', which provides a strategic framework and direction to achieve FMD freedom in Southeast Asia and China by the year 2020, and to maintain freedom in those countries and zones which have already achieved FMD-free status. When finalising the final draft, emphasis will also be placed on the issues of: the principles of good governance; surveillance, reporting and animal movement monitoring; a review of the FMD situation and updating the current timeline; and socio-economic research.

The OIE Sub-Commission for FMD in Southeast Asia and China re-affirmed its support for the vaccination policies in the 2020 Roadmap but noted that vaccination should be used appropriately as part of an overall national control programme for FMD, and that vaccine policies may be customised to suit national needs.

The establishment of an FMD regional vaccine bank for Asia, through the European Union (EU) funded regional programme in Asia against highly pathogenic and emerging or re-emerging diseases (HPED), was thoroughly discussed.

The OIE will develop guiding principles on access to the vaccine bank (official requests from OIE Delegates), eligibility criteria, delivery conditions, and the distribution and use

His Excellency Mr Suswono strikes the gong to formally open the 17th Meeting of the Sub-Commission

Participants at the meeting

Field trips

of vaccines, which could include a formal bilateral agreement between the OIE and some Members to facilitate vaccine entry. It was agreed that the FMD vaccines provided would not be available for blanket vaccination campaigns but would be reserved for the protection of free zone status (e.g. ring vaccination around outbreaks in Members with FMD-free status), or vaccination in hot spots.

The 'Stop Transboundary Animal Diseases and Zoonoses' (STANDZ) Initiative and the development of constructive working partnerships, particularly in the area of zoonoses, was endorsed by the OIE Sub-Commission for FMD in Southeast Asia and China. The GF-TADs[1] Regional Steering Committee for Asia and the Pacific remains an umbrella body for all these activities, including the proposed STANDZ programme (subject to funding confirmation by AusAID) for the control of transboundary animal diseases. This is already the case for the EU-funded HPED programme (which includes OIE, FAO and WHO components).

The participants were informed that the Second Global Conference on FMD, to be hosted by Thailand in June 2012, will be a pledging Conference. It will be an opportunity to present the different regional FMD control programmes, to promote the mechanisms for OIE endorsement of official national FMD control programmes, and to explain that countries with such OIE endorsement will be prioritised for the funding of FMD control activities. Members of SEACFMD were encouraged to apply soon for OIE recognition of their respective official control programmes for FMD, as laid out in the SEAFMD 2020 Roadmap.

The 17th Meeting of the OIE Sub-Commission for FMD in Southeast Asia and China also showcased presentations on: the national vaccination campaign in China, zoning in Region 2 of Thailand, studies on vaccination and vaccine efficacy, the FMD experience in Japan, and a case study of the FMD outbreak in Myanmar. These were in addition to the reports presented on the FMD status worldwide and the situation in individual Member Countries. Collaborating agencies and representatives from the private sector also gave presentations on their activities related to FMD. These collaborating agencies also gave talks on their continuing research into FMD, as did postgraduate students.

The 'One Health' session re-affirmed that there is no need to create another institution to promote 'One Health', as systems and networks are already in place – this is the strong position of the tripartite (OIE, FAO and WHO).

1-GF-TADs: Global Framework for the progressive control of Transboundary Animal Diseases

official acts

Appointment of permanent Delegates

18 November 2010

Venezuela

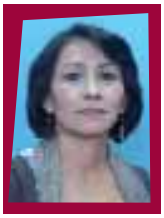
Dr Wilmer José Alcázar Guerra

Director of Animal Health, Ministry of Agriculture and Lands

17 December 2010

Ecuador

Dr María Isabel Jiménez



Executive Director of AGROCALIDAD, Ministry of Agriculture, Livestock, Aquaculture and Fisheries

1 January 2011

Timor-Leste

Dr Antonino do Karmo

National Veterinary Officer, Ministry of Agriculture and Fisheries

7 January 2011

Benin

Dr Richard Hounga Lokossou

Director of Livestock, Ministry of Agriculture, Livestock and Fisheries

1 February 2011

Brazil

Dr Guilherme Henrique Figuereido Marques

Director, Department of Animal Health, Ministry of Agriculture and Fisheries

1 February 2011

Mexico

Dr Hugo Fragoso Sánchez

Director General of Animal Health, Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food

16 February 2011

Egypt

Dr Hassan Shafik Mohammed Osman

Chairman, General Organization for Veterinary Services (GOVS), Ministry of Agriculture and Land Reclamation

1 March 2011

Denmark

Dr Per Starcke Henriksen

Chief Veterinary Officer, Ministry of Food, Agriculture and Fisheries

25 March 2011

El Salvador

Dr Miguel Humberto Ramírez Ramírez

Chief Veterinary Officer, Ministry of Agriculture and Livestock

28 March 2011

Panama

Dr Manuel Antonio González Cano

National Director of Animal Health, Ministry of Agricultural Development

30 March 2011

Portugal

Dr Susana Guedes Pombo

Director General, Veterinary Directorate General, Ministry of Agriculture, Rural Development and Fisheries

strengthening of veterinary services

OIE PVS Pathway for efficient Veterinary Services

PVS Evaluation missions

State of Play – as at 6 June 2011

OIE Region	OIE Members	Requests received	Missions completed	Reports available for distribution to donors and partners
Africa	52	50	44	35
Americas	29	22	20	16
Asia and the Pacific	32	18	14	11
Europe	53	14	13	10
Middle East	12	12	11	5
Total	**178**	**116**	**102**	**77**

PVS Evaluation missions (requests)

• Africa (50)

Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Rep., Chad, Comoros, Congo, Dem. Rep. of the Congo, Cote d'Ivoire, Djibouti, Egypt, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia (not an OIE Member), Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Seychelles, Sierra Leone, Somalia, Sudan, Swaziland, Tanzania, Togo, Tunisia, Uganda, Zambia, Zimbabwe.

• Americas (22)

Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Rep., Ecuador, El Salvador, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay.

• Asia-Pacific (18)

Bangladesh, Bhutan, Brunei, Cambodia, Fiji, Indonesia, Iran, Dem. People's Rep. of Korea, Laos, Maldives, Mongolia, Myanmar, Nepal, Philippines, Sri Lanka, Thailand, Timor Leste, Vietnam.

• Europe (14)

Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, Georgia, Israel, Kazakhstan, Kyrgyzstan, Romania, Tajikistan, Turkey, Ukraine, Uzbekistan.

• Middle East (12)

Afghanistan, Bahrain, Jordan, Kuwait, Lebanon, Oman, Palestinian N.A. (not an OIE Member), Qatar, Saudi Arabia, Syria, United Arab Emirates, Yemen.

In red: completed missions

PVS Gap Analysis missions

State of Play – as at 6 June 2011

OIE Region	OIE Members	Requests received	Missions completed
Africa	52	31	19
Americas	29	11	5
Asia and the Pacific	32	12	7
Europe	53	6	5
Middle East	12	7	2
Total	**178**	**67**	**38**

PVS Gap Analysis missions

• Africa (31)
Benin, Botswana, Burkina Faso, Cameroon, Dem. Rep. of the Congo, Cote d'Ivoire, Djibouti, Egypt, Eritrea, Gabon, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Madagascar, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Sudan, Tanzania, Togo, Uganda, Zambia.

• Americas (11)
Barbados, Belize, Bolivia, Costa Rica, Dominican Republic, El Salvador, Haiti, Honduras, Jamaica, Nicaragua, Panama.

• Asia-Pacific (12)
Bhutan, Brunei, Cambodia, Indonesia, Dem. People's Rep. of Korea, Laos, Mongolia, Myanmar, Nepal, Philippines, Sri Lanka, Vietnam.

• Europe (6)
Armenia, Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkey.

• Middle East (7)
Kuwait, Lebanon, Oman, Palestinian N.A. (not an OIE Member), Syria, United Arab Emirates, Yemen.

In red:
completed missions

Legislation missions

State of Play – as at 6 June 2011

OIE Region	OIE Members	Requests received	Missions completed
Africa	52	18	11
Americas	29	4	2
Asia and the Pacific	32	4	3
Europe	53	3	1
Middle East	12	4	4
Total	**178**	**33**	**21**

This table does not include the missions to Botswana and South Africa nor the first mission carried out in Zambia since the project was in pilot phase

Legislation missions

• Africa (18)
Benin, Burkina Faso, Cameroon, Dem. Rep. of the Congo, Djibouti, Ethiopia, Gabon, Guinea-Bissau, Madagascar, Malawi, Mali, Mauritania, Mauritius, Nigeria, Sudan, Togo, Uganda, Zambia.

• Americas (4)
Bolivia, Dominican Rep., Haiti, Honduras.

• Asia-Pacific (4)
Bhutan, Cambodia, Laos, Vietnam.

• Europe (3)
Armenia, Kazakhstan, Kyrgyzstan.

• Middle East (4)
Afghanistan, Kuwait, Lebanon, United Arab Emirates.

In red:
completed missions

OIE Regional Workshops for Focal Points and Information Seminars for new Delegates

Middle East

Workshop for National Focal Points on Animal Disease Notification to the OIE

Beirut, Lebanon, 25-27 January 2011

Speakers and participants at the Workshop

As part of the worldwide programme of capacity-building for OIE National Focal Points, the OIE Regional Representation for the Middle East organised a Workshop on Animal Disease Notification to the OIE, which was held in Hamra, Beirut, Lebanon, from 25 to 27 January 2011, and hosted by the Lebanese Ministry of Agriculture.

The main purpose of the workshop was to support the activities of National Focal Points on Animal Disease Notification by providing information and guidance on the OIE World Animal Health Information System (WAHIS) and database (WAHID). Focal Points from the ten countries of Bahrain, Iraq, Jordan, Kuwait, Lebanon, Oman, Saudi Arabia, Syria, Turkey and Yemen were in attendance.

Presentations focused on improving the quality of both data and data processing for WAHIS, and covered all types of reports for both terrestrial and aquatic animal diseases (i.e. immediate notifications, follow-up reports, six-monthly and annual reports). The Focal Points were also showed how these reports are displayed on the WAHID interface. After each presentation, the participants practised on WAHIS by completing several exercises. Specific items were developed to highlight the improvements made to the system in 2009, when users became able to differentiate between disease occurrence in domestic species and in wild species, where relevant.

Participants were also updated on the state of disease reporting in the region, underlining the fact that very little information is being provided on aquatic animal diseases or on the disease situation in wildlife. An interesting exchange took place on the consequences of transparency, in particular on the concern that some countries will apply a ban on another country, after the OIE has published an immediate notification of an animal disease event in that country, despite the fact that they were already well aware of the animal disease situation in that country. Debates between the participants and the OIE facilitators were both lively and useful, and most attendants showed a real interest in WAHIS, taking part in the practical exercises with great enthusiasm.

meetings and visits

Names and positions of OIE permanent staff who participated in meetings or visits: January to March 2011

OIE Headquarters

General Directorate

Bernard Vallat	Director General
Alex Thiermann	Adviser to the Director General and President of the OIE Terrestrial Animal Health Standards Commission
Maria Zampaglione	Head of the Communication Unit
Glaïeul Mamaghani	Deputy Head of the Communication Unit
Julie Strat	Chargée de mission
Monique Eloit	Deputy Director General (Administration, Management, Human Resources and Regional Actions)
Martin Nissen	Legal adviser
Alain Dehove	Coordinator of the World Animal Health and Welfare Fund
Margarita Gómez-Riela	Project officer – World Animal Health and Welfare Fund
Emily Tagliaro	Project officer – World Animal Health and Welfare Fund
Alix Weng	Head of the Budget and Financial Unit
Jean-Pierre Croiziers	Head of the Human Resources Unit
Marie Bonnerot	Administrative and Budgetary Technician
Kazuaki Miyagishima	Deputy Director General (Animal Health, Veterinary Public Health and International Standards)

Administration, Logistics and Publications Department

Daniel Chaisemartin	Head of Department
Paul-Pierre Pastoret	Scientific adviser
Marie Teissier	Documentalist
Bertrand Flahault	1st Deputy Head of Department and Head of the Systems Management and Events Unit
Alejandra Torres	Conference Coordinator
Annie Souyri	2nd Deputy Head of Department and Head of the Publications Unit
Tamara Benicasa	Marketing and Sales Manager

Animal Health Information Department

Karim Ben Jebara	Head of Department
Francesco Berlingieri	Deputy Head of Department
Laure Weber-Vintzel	Chargée de mission
Paula Cáceres	Veterinary Epidemiologist
Simona Forcella	Chargée de mission
Aziza Yassin Mustafa	Chargée de mission

International Trade Department

Sarah Kahn	Head of Department
Gillian Mylrea	Deputy Head of Department
Masatsugu Okita	Chargé de mission
Mariela Varas	Chargée de mission
Wim Pelgrim	Chargé de mission

Scientific and Technical Department

Kazuaki Miyagishima	Head of Department
Elisabeth Erlacher-Vindel	Deputy Head of Department
Joseph Domenech	Chargé de mission
Kathleen Glynn	Chargée de mission
Jennifer Lasley	Project Coordinator
Yong Joo Kim	Chargé de mission
Alessandro Ripani	Chargé de mission
François Diaz	Officer in charge of validation of diagnostic assays
Lea Knopf	Officer in charge of the recognition of countries' animal disease status
Stéphanie Beau	Bilingual secretary (recognition of countries' animal disease status)
Keith Hamilton	OFFLU Coordinator
David Swayne	OFFLU Scientific Officer
Sara Linnane	Scientific Editor

Regional Activities Department

François Caya	Head of Department
Mara Elma González	Deputy Head of Department
Nathaly Monsalve	Conference Coordinator/Trilingual secretary
Francisco D'Alessio	Chargé de mission
Marie Edan	Chargée de mission
Bernardo Todeschini	Chargé de mission

OIE Regional and Sub-Regional Representations

Africa

Yacouba Samaké	Yacouba Samaké Acting Regional Representative for Africa (Bamako, Mali)
Daniel Bourzat	Adviser to the Regional Representative for Africa (Bamako, Mali)
Youma N'Diaye	Accountant (Bamako, Mali)
Mariam Minta	Secretary (Bamako, Mali)
Aïssata Bagayoko	Secretary (Bamako, Mali)
Bonaventure J. Mtei	Sub-Regional Representative for the countries of the Southern African Development Community (Gaborone, Botswana)
Neo Joel Mapitse	Deputy Sub-Regional Representative for the countries of the Southern African Development Community (Gaborone, Botswana)
Patrick Bastiaensen	Programme officer (Gaborone, Botswana)
Mpho Mantsho	Administrative and financial assistant (Gaborone, Botswana)
Nomsa Thekiso	Secretary (Gaborone, Botswana)
Faouzi Kechrid	Sub-Regional Representative for North Africa (Tunis, Tunisia)
Vincent Brioudes	Programme officer (Tunis, Tunisia)
Antonio Petrini	Programme officer (Tunis, Tunisia)
Mouna Boussleh	Administrative and financial assistant (Tunis, Tunisia)

OIE Regional and Sub-Regional Representations (cont.)

Africa (cont.)

Inès Guitouni	Secretary (Tunis, Tunisia)
Walter Masiga	Sub-Regional Representative for Eastern Africa and the Horn of Africa (Nairobi, Kenya)
Antoine Maillard	Adviser to the Sub-Regional Representative for Eastern Africa and the Horn of Africa (Nairobi, Kenya)
Grace Omwega	Administrative and financial assistant (Nairobi, Kenya)
Loise W. Ndungu	Secretary (Nairobi, Kenya)

Americas

Luis Osvaldo Barcos	Regional Representative for the Americas (Buenos Aires, Argentina)
Martín Minassian	Technical assistant (Buenos Aires, Argentina)
Alicia Palmas	Secretary (Buenos Aires, Argentina)
Inés Borgeaud	Assistant secretary (Buenos Aires, Argentina)
Marina Cozzarin	Assistant (Buenos Aires, Argentina)
Leandro Barcos	Administrative assistant (Buenos Aires, Argentina)
José Joaquín Oreamuno	Sub-Regional Representative for Central America (Panama City, Panama)
Alina Gutierrez Camacho	Secretary (Panama City, Panama)

Asia and the Pacific

Itsuo Shimohira	Regional Representative for Asia and the Pacific (Tokyo, Japan)
Tomoko Ishibashi	Senior Deputy Regional Representative for Asia and the Pacific (Tokyo, Japan)
Kenji Sakurai	Deputy Regional Representative for Asia and the Pacific (Tokyo, Japan)
Sayuri Iwaki	Regional Veterinary Officer (Tokyo, Japan)
Than Hla	Consultant (Tokyo, Japan)
Chantanee Buranathai	Regional Technical Assistant (Tokyo, Japan)
Noriko Tesaki	Accountant (Tokyo, Japan)
Takako Hasegawa (Shimizu)	Secretary (Tokyo, Japan)
Kazue Akagawa	Secretary (Tokyo, Japan)
Yuka Fay	Secretary (Tokyo, Japan)
Ronello C. Abila	Sub-Regional Representative for Southeast Asia and SEACFMD Regional Coordinator (Bangkok, Thailand)
Alexandre Bouchot	Project Manager (HPED) (Bangkok, Thailand)
Andrew Davis	Project Manager (IDENTIFY) (Bangkok, Thailand)
Sharie Michelle Razo Aviso	Project officer (SEACFMD) (Bangkok, Thailand)
Quyen Tran	Project officer (HPED) (Bangkok, Thailand)
Jarunee Siengsanan-Lamont	Project officer (PSVS) (Bangkok, Thailand)
Khun Chutikarn Dhebhasit	Secretary (Bangkok, Thailand)
Pattita Angvanitchakul aka Ning	Secretary (Bangkok, Thailand)

Eastern Europe

Nikola T. Belev	Regional Representative for Eastern Europe (Sofia, Bulgaria) and President of the OIE Regional Commission for Europe
Anatoly Vlasov	Expert (Sofia, Bulgaria)
Stanislav Ralchev	Technical assistant (Sofia, Bulgaria)
Rina Kostova	Secretary (Sofia, Bulgaria)
Nadège Leboucq	Sub-Regional Representative for Europe in Brussels (Belgium)
Jean-Pierre Vermeersch	ADIS Project Manager (Brussels, Belgium)

Middle East

Ghazi Yehia	Regional Representative for the Middle East (Beirut, Lebanon)
Mustapha Mestom	Consultant (Beirut, Lebanon)
Rita Rizk	Secretary (Beirut, Lebanon)
Hani Imam	Technical assistant (Beirut, Lebanon)
Khodr Rjeili	Assistant (Beirut, Lebanon)
Mahmoud Al Ghadaf	Assistant (Beirut, Lebanon)

Names and positions of experts who represented the OIE in meetings or visits

Jacques Barrat	OIE Expert, OIE Reference Laboratory for Rabies (Malzéville, France)
Michèle Bouloy	OIE Expert, OIE Reference Laboratory for Crimean-Congo Haemorrhagic Fever and for Rift Valley Fever (Paris, France)
Gideon Brückner	President of the OIE Scientific Commission for Animal Diseases
Jorge Caetano	Secretary General of the OIE Terrestrial Animal Health Standards Commission
Vincenzo Caporale	President of the OIE Biological Standards Commission
Marie-Pierre Chauzat	OIE Expert
Hualan Chen	Member of the OIE Biological Standards Commission and OIE Expert, OIE Reference Laboratory for Highly and Low Pathogenic Avian Influenza (poultry) (Harbin, People's Republic of China)
Kris de Clercq	Vice-President of the OIE Scientific Commission for Animal Diseases
Carlos A. Correa Messuti	President of the OIE World Assembly of Delegates and OIE Delegate of Uruguay
Tenzin Dhendup	Member of the OIE Council and OIE Delegate of Bhutan
Sergio J. Duffy	Member of the OIE Scientific Commission for Animal Diseases
Mehdi El Harrak	Secretary General of the OIE Biological Standards Commission
Ricardo Enríquez	Vice-President of the OIE Aquatic Animal Health Standards Commission
Brian R. Evans	Member of the OIE Council and OIE Delegate of Canada
Truuske Gerdes	Former OIE Expert
Barry J. Hill	President of the OIE Aquatic Animal Health Standards Commission
Antonino do Karmo	OIE Delegate of Timor-Leste

Names and positions of experts who represented the OIE in meetings or visits (cont.)

Eli Katunguka-Rwakishaya	OIE Expert	Alejandro Schudel	Member of the OIE Biological Standards Commission
Catherine Lambert	OIE Expert, OIE Collaborating Centre for Veterinary Medicinal Products (Fougères, France)	Sen Sovann	Secretary General of the OIE Regional Commission for Asia, the Far East and Oceania and OIE Delegate of Cambodia
Gardner Murray	OIE Consultant		
Barry O'Neil	Past President of the OIE World Assembly of Delegates and OIE Delegate of New Zealand	Víctor Manuel Vidal	Member of the OIE Aquatic Animal Health Standards Commission
Jean-Pierre Orand	OIE Expert, OIE Collaborating Centre for Veterinary Medicinal Products (Fougères, France)	David Wallace	OIE Expert

List of abbreviations

ADIS
Animal Disease Information System of the European Union

AI
Avian influenza

AOAD
Arab Organization for Agricultural Development

APEC
Asia-Pacific Economic Cooperation

APHCA
Animal Production and Health Commission for Asia and the Pacific

ARIS
Animal Resources Information System

ARS
Agricultural Research Service

AU-IBAR
African Union-Interafrican Bureau for Animal Resources

AU-PANVAC
African Union-Pan-African Veterinary Vaccine Centre

AusAID
Australian Agency for International Development

BTSF
Better Training for Safer Food (programme)

BTWC
Biological and Toxin Weapons Convention

CaribVET
Caribbean Animal Health Network

CARICOM
Caribbean Community

CIRAD
French Agricultural Research Centre for International Development

CIS
Commonwealth of Independent States

COFI
Committee on Fisheries

COSALFA
South-American Commission for the Control of Foot and Mouth Disease

Discontools
Disease Control Tools Project

EC
European Commission

ECDC
European Centre for Disease Prevention and Control

EDENext
Biology and control of vector-borne infections in Europe

EpiNet
Epidemiology Network

EPIZONE
Network of Excellence for Epizootic Disease Diagnosis and Control

EPT
Emerging Pandemic Threats

ETPGAH
European Technology Platform for Global Animal Health

EU
European Union

EuFMD
European Commission for the Control of Foot and Mouth Disease

EuroFAWC
European Forum of Animal Welfare Councils

FAO
Food and Agriculture Organization of the United Nations

FAVA
Federation of Asian Veterinary Associations

FMD
Foot and mouth disease

GALVMed
Global Alliance for Livestock Veterinary Medicines

GF-TADs
FAO/OIE Global Framework for the Progressive Control of Transboundary Animal Diseases

GLEWS
Global Early Warning and Response System

HPAI
Highly pathogenic avian influenza

HPED
European Union-funded cooperation programme on highly pathogenic and emerging and re-emerging diseases in Asia

IATA
International Air Transport Association

IDB
Inter-American Development Bank

IHR
International health regulations

IMED
International Meeting on Emerging Diseases and Surveillance

IZS
Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise 'G. Caporale'

LabNet
Laboratory Network

OFFLU
Joint OIE/FAO worldwide scientific network for the control of animal influenza

OIE
World Organisation for Animal Health

PSVS
OIE/AusAID Programme for Strengthening Veterinary Services

List of abbreviations (cont.)

PVMA
Philippines Veterinary Medical Association

PVS
Performance of Veterinary Services

REMESA
Mediterranean Animal Health Network

RUTA
Regional Unit for Technical Assistance

SADC
Southern African Development Community

SEACFMD
Southeast Asia and China Foot and Mouth Disease Campaign

SEARG
Southern and Eastern Africa Rabies Group

SOLICEP
Somali Livestock Certification Project

SPS
Sanitary and phytosanitary measures

STDF
Standards and Trade Development Facility

TAIEX
Technical Assistance and Information Exchange Instrument

UK
United Kingdom

UNESCO
United Nations Educational, Scientific and Cultural Organization

USAID
United States Agency for International Development

USDA
United States Department of Agriculture

VACNADA
Vaccines for the Control of Neglected Animal Diseases in Africa (EU-funded project)

VICH
International Cooperation on Harmonisation of Technical Requirements for Registration of Veterinary Medicinal Products

WAHID
World Animal Health Information Database

WAHIS
World Animal Health Information System

WHO
World Health Organization

WSPA
World Society for the Protection of Animals

WTO
World Trade Organization

meetings and visits

January 2011

Title of the event	Place	Date	Participants
Meeting for the updating and discussion of the OIE standards for their adoption during the 79th OIE General Session	Buenos Aires (Argentina)	5-7 January	Dr A. Thiermann, Dr L.O. Barcos, Dr M. Minassian, Mr L. Barcos, Ms A. Palmas, Ms M. Cozzarin, Dr J.J. Oreamuno, Dr J. Caetano, Dr R. Enríquez, Dr V.M. Vidal, Dr S.J. Duffy & Dr A. Schudel
Meeting with the Chief Veterinary Officer of Thailand on AI vaccine control issues	Bangkok (Thailand)	9 January	Dr D. Swayne
OFFLU AI Vaccine Research Project Data Collection	Bangkok (Thailand)	10-11 January	Dr D. Swayne
FAO Regional Meeting to discuss HPAI control through vaccination	Bangkok (Thailand)	11-12 January	Dr D. Swayne
EPIZONE – 5th and last half-yearly meeting	Lelystad (Netherlands)	12-14 January	Dr E. Erlacher-Vindel
4th Meeting of Joint FAO/OIE Committee on Rinderpest Eradication	OIE Headquarters, Paris (France)	13-14 January	Dr K. Miyagishima & Dr L. Knopf
HPED Networking Event: 'Linking the actors of the EU-Asia Regional "One Health" Programme'	Bangkok (Thailand)	18-19 January	Dr A. Dehove, Dr R.C. Abila, Dr A. Bouchot, Dr Q. Tran, Dr G. Murray, Dr T. Dhendup, Dr S. Sovann & Dr A. do Karmo
GF-TADs *ad hoc* workshop: 'Rift Valley Fever vaccine development, progress and constraints'	FAO Headquarters, Rome (Italy)	19-21 January	Dr F. Diaz, Dr M. Bouloy, Dr T. Gerdes & Dr D. Wallace
USAID IDENTIFY OIE/FAO Animal Health Stakeholders' Awareness Meeting for the Southeast Asia Region	Bangkok (Thailand)	19-21 January	Dr J. Lasley, Dr R.C. Abila, Dr A. Bouchot & Dr J. Siengsanan-Lamont
3rd OIE Bluetongue Reference Laboratories Network Meeting	Teramo (Italy)	20-21 January	Dr Y.J. Kim

meetings and visits

January 2011 (cont.)

Title of the event	Place	Date	Participants
International Green Week 2011 and bilateral meetings with Germany	Berlin (Germany)	20-30 January	Dr B. Vallat, Dr A. Thiermann, Ms M. Zampaglione, Mr M. Nissen, Dr E. Erlacher-Vindel, Dr Y. Samaké & Prof. Dr N.T. Belev
USAID Regional Workshop on Biosafety	Cairo (Egypt)	23-25 January	Dr G. Yehia
Official Opening Ceremony of the World Veterinary Year 'Vet2011'	Versailles (France)	24 January	Dr C.A. Correa Messuti, Dr B. Vallat, Dr A. Thiermann, Ms G. Mamaghani, Dr M. Eloit, Dr A. Dehove, Dr D. Chaisemartin, Ms T. Benicasa, Dr S. Kahn, Dr G. Mylrea, Dr K. Miyagishima, Dr J. Domenech, Dr F. D'Alessio, Dr M. Edan, Dr B. Todeschini, Dr F. Kechrid, Dr V. Brioudes & Prof. Dr N.T. Belev
TAIEX Meeting on Biosecurity and the role of the BTWC	Amman (Jordan)	24-27 January	Dr G. Yehia
Workshop on IDB/RUTA project outcome analysis: 'Indicators of animal health and animal products safety' and meeting with IDB/RUTA project authorities	San José (Costa Rica)	24-28 January	Dr J.J. Oreamuno
Regional Workshop for advanced training on WAHIS and WAHID for OIE National Focal Points for Animal Diseases Notification	Beirut (Lebanon)	25-27 January	Dr K. Ben Jebara, Dr L. Weber-Vintzel, Dr G. Yehia, Ms R. Rizk, Mr H. Imam, Mr K. Rjeili & Mr M. Al Ghadaf
Technical Consultation in support of the EPT Programme Activities of the OIE	OIE Headquarters, Paris (France)	25-27 January	Dr F. Berlingieri, Dr S. Forcella, Dr K. Miyagishima, Dr K. Glynn & Dr J. Lasley
10th SEARG Meeting	Maputo (Mozambique)	25-28 January	Dr B.J. Mtei, Dr N.J. Mapitse & Dr J. Barrat
GALVMed Meeting	Brussels (Belgium)	26 January	Dr A. Dehove
Veterinary expert meeting on African Swine Fever, organised by the Ministry of Agriculture of Germany	Berlin (Germany)	26 January	Dr A. Thiermann, Prof. Dr N.T. Belev & Dr N. Leboucq
FAO/OIE Working Group on FMD	FAO Headquarters, Rome (Italy)	26-27 January	Dr J. Domenech
2nd Annual National Codex Contact Points Meeting	Accra (Ghana)	27-29 January	Dr A. Maillard
Global IDENTIFY Tripartite Project Planning Meeting	OIE Headquarters, Paris (France)	28 January	Dr K. Glynn & Dr J. Lasley
6th Meeting of the ADIS Steering Committee	OIE Headquarters, Paris (France)	28 January	Dr D. Chaisemartin, Dr N. Leboucq & Dr J.-P. Vermeersch
Preliminary mission for brucellosis twinning with the German Federal Research Centre for Virus Diseases of Animals	Dubai and Abu Dhabi (United Arab Emirates)	31 January – 2 February	Dr G. Yehia
29th Session of the Committee on Fisheries (COFI)	Rome (Italy)	31 January – 4 February	Dr G. Mylrea

February 2011

Title of the event	Place	Date	Participants
OIE/FAO/WHO – GLEWS Working Group Meeting on Early Response	Geneva (Switzerland)	1 February	Dr D. Chaisemartin & Dr K. Ben Jebara
Coordination Meeting of the REMESA Joint Standing Committee	Algiers (Algeria)	1-2 February	Dr M. Eloit, Dr F. Kechrid, Dr V. Brioudes & Dr A. Petrini
One Flu Strategic Retreat	Castel Brando (Italy)	1-3 February	Dr K. Hamilton & Dr D. Swayne
OIE/FAO/WHO – GLEWS Task Force Meeting	Geneva (Switzerland)	2 February	Dr D. Chaisemartin & Dr K. Ben Jebara
81st Session of the EuFMD Executive Committee	Budapest (Hungary)	2 February	Prof. Dr N.T. Belev & Dr N. Leboucq

meetings and visits

February 2011 (cont.)

Title of the event	Place	Date	Participants
FAO/OIE/WHO Tripartite Annual Coordination and Executive Meeting	Geneva (Switzerland)	3-4 February	Dr B. Vallat, Dr A. Dehove, Dr D. Chaisemartin, Dr K. Miyagishima & Dr J. Domenech
1st Veterinary Forum for the Southeast European Region, organised by FAO in the framework of the GF-TADs for Europe, in cooperation with the OIE and the EC	Budapest (Hungary)	3-4 February	Prof. Dr N.T. Belev & Dr N. Leboucq
3rd International Meeting on Emerging Diseases and Surveillance (IMED 2011)	Vienna (Austria)	4-7 February	Dr B. Vallat, Dr K. Hamilton, Ms T. Benicasa & Dr M.-P. Chauzat
1st International Biosafety and Biocontainment Symposium, hosted by USDA-ARS	Baltimore (United States)	6-9 February	Dr K. Glynn & Dr D. Swayne
EC/OIE Meeting on BTSF Africa Budget	Brussels (Belgium)	8 February	Dr A. Dehove, Ms M. Gómez-Riela & Dr N. Leboucq
Meeting to launch the development phase of the ADIS prototype	OIE Headquarters, Paris (France)	8 February	Dr D. Chaisemartin & Dr J.-P. Vermeersch
'One Health' – Increasing Cross-Sectoral Functioning Capabilities for APEC Member Economies	Cebu (Philippines)	8-10 February	Dr T. Ishibashi & Dr S.M. Razo Aviso
Visit to the new Director of Animal Health	Brasilia (Brazil)	9 February	Dr L.O. Barcos
OFFLU Avian Influenza Vaccines and Vaccination Research Project Data Collection	Baltimore (United States)	9-10 February	Dr D. Swayne
Lecture at Obihiro Veterinary University	Obihiro (Japan)	10 February	Dr K. Sakurai
WHO consultation on the composition of influenza vaccines for the Northern Hemisphere, 2011-2012	Geneva (Switzerland)	14-16 February	Dr K. Hamilton
19th Conference of the OIE Regional Commission for Africa	Kigali (Rwanda)	14-18 February	Dr B. Vallat, Dr A. Thiermann, Dr F. Berlingieri, Dr F. Caya, Ms N. Monsalve, Dr Y. Samaké, Dr D. Bourzat, Ms A. Bagayoko, Dr B.J. Mtei, Dr N.J. Mapitse, Dr P. Bastiaensen, Dr F. Kechrid, Dr V. Brioudes, Dr W. Masiga, Dr A. Maillard, Ms G. Omwega, Dr M. El Harrak & Prof. E. Katunguka-Rwakishaya
Meeting of *ad hoc* Technical Expert Group on addressing the risks associated with the introduction of invasive alien species as pets, aquarium and terrarium species, as live bait and food	Geneva (Switzerland)	14-18 February	Dr W. Pelgrim
1st ADIS User Group Meeting	Brussels (Belgium)	15 February	Dr D. Chaisemartin & Dr J.-P. Vermeersch
16th FAVA Congress, including OIE/FAVA-PVMA plenary session and Joint OIE/FAO/FAVA-PVMA symposium on 'One Health'	Cebu (Philippines)	16-18 February	Dr I. Shimohira, Dr R.C. Abila, Dr A. Bouchot, Dr S.M. Razo Aviso, Dr J. Siengsanan-Lamont & Dr G. Murray
Mission for avian influenza surveillance	Ca Mau Province (Vietnam)	16-25 February	Dr K. Sakurai
PSVS Sub-Regional Workshop on Veterinary Education	Cebu (Philippines)	18 February	Dr R.C. Abila, Dr A. Bouchot, Dr S.M. Razo Aviso, Dr J. Siengsanan-Lamont & Dr G. Murray
International Exhibition of Agriculture	Paris (France)	19-27 February	Dr B. Vallat, Ms M. Zampaglione & Ms T. Benicasa
OIE Laboratory Twinning Visit	Teramo (Italy)	20-22 February	Dr K. Hamilton
IDENTIFY Project Coordination Meeting	Paris (France)	21-23 February	Dr J. Lasley & Dr N.J. Mapitse
25th Meeting of the VICH Steering Committee and meeting of the *ad hoc* Group on 'VICH Global Outreach'	Washington, DC (United States)	21-24 February	Dr J.-P. Orand & Dr C. Lambert

meetings and visits

February 2011 (cont.)

Title of the event	Place	Date	Participants
3rd FMD Working Group Meeting of GF-TADs	OIE Headquarters, Paris (France)	22 February	Dr J. Domenech, Dr L. Knopf & Dr N. Leboucq
OIE Global Conference on Wildlife: 'Animal Health and Biodiversity – Preparing for the Future'	Paris (France)	23-25 February	Dr C.A. Correa Messuti, Dr B. Vallat, Dr A. Thiermann, Dr M. Eloit, Dr A. Dehove, Dr D. Chaisemartin, Prof. P.-P. Pastoret, Ms A. Torres, Ms T. Benicasa, Dr K. Ben Jebara, Dr F. Berlingieri, Dr S. Forcella, Dr S. Kahn, Dr M. Varas, Dr W. Pelgrim, Dr K. Miyagishima, Dr E. Erlacher-Vindel, Dr J. Domenech, Dr K. Glynn, Dr J. Lasley, Dr Y.J. Kim, Dr A. Ripani, Dr F. Diaz, Dr L. Knopf, Ms S. Beau, Dr D. Swayne, Ms S. Linnane, Dr M.E. González, Dr Y. Samaké, Dr B.J. Mtei, Dr N.J. Mapitse, Dr F. Kechrid, Dr A. Petrini, Dr W. Masiga, Dr M. Minassian, Dr I. Shimohira, Prof. Dr N.T. Belev, Dr G. Yehia, Dr B. O'Neil, Dr B.R. Evans, Dr T. Dhendup, Dr S. Sovann, Dr G. Brückner, Dr K. de Clercq, Prof. V. Caporale, Dr B.J. Hill & Dr G. Murray
Mission on twinning audit and meeting of the VACNADA Project	Eritrea and Ethiopia	23 February – 4 March	Dr K. Hamilton
Meeting with His Excellency Mr Boubacar Sidiki Touré, Ambassador of Mali to France	Paris (France)	24 February	Dr M. Eloit & Dr Y. Samaké
General Assembly establishing the Veterinary Council of Mauritania	Nouakchott (Mauritania)	28 February	Dr F. Kechrid
Codex Alimentarius Working Group on general principles and guidelines for national food safety control systems	Recife (Brazil)	28 February – 3 March	Dr M. Minassian
Mission on the PVS 'One Health' Pilot Activities and meeting on the IDENTIFY project	Costa Rica and Panama	28 February – 9 March	Dr K. Glynn
Meeting to support the implementation of a pilot project on the 'One Health' initiative	San José (Costa Rica)	28 February – 9 March	Dr L.O. Barcos

March 2011

Title of the event	Place	Date	Participants
3rd Steering Committee Meeting of the VACNADA Project, organised by AU-IBAR in partnership with AU-PANVAC, GALVmed and CIRAD	Debre Zeit (Ethiopia)	1 March	Dr W. Masiga
OIE Regional Workshop on Risk Analysis for Veterinary Vaccines – practical application including vaccines related to new and emerging technologies	Tokyo (Japan)	1-3 March	Dr I. Shimohira, Dr T. Ishibashi, Dr S. Iwaki, Dr T. Hla, & Dr C. Buranathai
Training course: 'Humane slaughter of cattle, pigs and birds', organised by the Institute of Bioscience of the Faculty of Veterinary Medicine of the University of Uruguay (OIE Collaborating Centre for Animal Welfare Research)	Montevideo (Uruguay)	1-3 March	Dr L.O. Barcos

meetings and visits

March 2011 (cont.)

Title of the event	Place	Date	Participants
Preparation of the Tripartite Action Plan	Geneva (Switzerland)	2 March	Dr A. Dehove
Engaging Intergovernmental Organisations: educational programme	OIE Headquarters, Paris (France)	2 March	Dr G. Mylrea, Dr M. Okita & Dr W. Pelgrim
Joint Meeting of the SEACFMD Laboratory and Epidemiology Networks (LabNet-EpiNet)	Pak Chong (Thailand)	2-3 March	Dr R.C. Abila, Dr A. Davis, Dr S.M. Razo Aviso & Ms P. Angvanitchakul aka Ning
Meeting of the FMD Editorial Committee of Maghreb countries	Tunis (Tunisia)	3-4 March	Dr F. Kechrid, Dr V. Brioudes & Dr A. Petrini
Celebration of the 80th Anniversary of the All-Russian Research Institute for Control, Standardisation and Certification of Veterinary Preparations (OIE Collaborating Centre for Food Safety, Diagnosis and Control of Animal Diseases in Eastern Europe, Central Asia and Transcaucasia)	Moscow (Russia)	4 March	Prof. Dr N.T. Belev
IDENTIFY FAO/OIE/WHO Tripartite Project Planning Meeting for the Congo Basin Region	Libreville (Gabon)	7-9 March	Dr J. Lasley, Dr N.J. Mapitse & Dr A. Davis
Preliminary mission for food safety collaboration programme	Damascus (Syria)	7-9 March	Dr G. Yehia
OIE/FAO-APHCA Regional Workshop on Bluetongue Diagnosis and Control	Bogor (Indonesia)	7-10 March	Dr K. Sakurai
17th Meeting of the OIE Sub-Commission for SEACFMD Campaign	Denpasar, Bali (Indonesia)	7-11 March	Dr B. Vallat, Dr A. Dehove, Dr F. Caya, Dr I. Shimohira, Dr R.C. Abila, Dr A. Bouchot, Dr S.M. Razo Aviso, Dr J. Siengsanan-Lamont, Ms K.C. Dhebhasit & Dr G. Murray
China and Vietnam Discussion Forum on HPAI Risk Management and Control	Beijing (People's Republic of China)	8-9 March	Dr D. Swayne & Dr H. Chen
Regional Workshop for advanced training on WAHIS and WAHID for OIE National Focal Points for Animal Diseases Notification	Bamako (Mali)	8-10 March	Dr K. Ben Jebara, Dr L. Weber-Vintzel, Dr Y. Samaké & Dr D. Bourzat
26th Annual Meeting of the IATA Live Animals and Perishables Board	Istanbul (Turkey)	8-11 March	Dr M. Varas
2nd ADIS User Group Meeting	Brussels (Belgium)	9-10 March	Dr D. Chaisemartin & Dr J.-P. Vermeersch
2nd Meeting of the OIE Delegates in Southeast Asia	Denpasar, Bali (Indonesia)	11 March	Dr B. Vallat, Dr A. Dehove, Dr F. Caya, Dr I. Shimohira, Dr R.C. Abila, Dr A. Bouchot, Dr S.M. Razo Aviso, Dr J. Siengsanan-Lamont, Ms K.C. Dhebhasit & Dr G. Murray
Meeting with OIE Foot and Mouth Disease Reference Laboratories and Official Livestock Services	Lima (Peru)	14-15 March	Dr L.O. Barcos
Training workshop on surveillance and control of animal brucellosis for CIS countries	Teramo (Italy)	14-16 March	Prof. Dr N.T. Belev & Dr A. Vlasov
Joint FAO/OIE Sub-Regional Seminar: 'Progressive Control Pathway for FMD in the SADC Region'	Gaborone (Botswana)	14-18 March	Dr L. Knopf, Dr B.J. Mtei, Dr N.J. Mapitse, Dr P. Bastiaensen, Ms M. Mantsho & Dr A. Petrini
Workshop on Interoperability Connectivity between WAHIS and ARIS 2	Nairobi (Kenya)	15-16 March	Dr D. Chaisemartin & Dr K. Ben Jebara
FAO/WSPA/IZS Expert Meeting on Dog Population Management	Banna (Italy)	15-19 March	Dr M. Varas
6th GALVMed Board Meeting and meeting to discuss possibilities for twinning in Ethiopia	Debre Zeit (Ethiopia)	16-18 March	Dr K. Hamilton
Meeting at UNESCO for the preparation of an agreement	Paris (France)	17 March	Dr M. Eloit

meetings and visits

March 2011 (cont.)

Title of the event	Place	Date	Participants
Meeting on protecting UK livestock from the threat of viral disease	London (United Kingdom)	17 March	Dr K. de Clercq
5th Pan-Commonwealth Veterinary Conference	Accra (Ghana)	20-23 March	Dr B. Vallat & Dr L. Knopf
Discontools: 8th meeting of the Project Management Board and 25th meeting of the ETPGAH Executive Board	Brussels (Belgium)	21 March	Dr E. Erlacher-Vindel
Joint FAO/WHO workshop to develop a guidance document for the application of risk analysis during food safety emergencies	FAO Headquarters, Rome (Italy)	21-25 March	Dr G. Mylrea
African Swine Fever Technical Meeting, organised jointly by the FAO and the State Veterinary and Phytosanitary Service of Ukraine	Kiev (Ukraine)	22 March	Prof. Dr N.T. Belev
Meeting of the Bureau of the OIE Regional Commission for the Americas	Buenos Aires (Argentina)	22-23 March	Dr L.O. Barcos, Dr M. Minassian, Ms A. Palmas, Ms M. Cozzarin & Dr J.J. Oreamuno
Preparatory meeting for the OIE Global Conference on Rabies Control: 'Towards Sustainable Prevention at the Source', to be held in Incheon-Seoul, Republic of Korea, from 7 to 9 September 2011	Seoul (Republic of Korea)	22-24 March	Dr D. Chaisemartin, Dr Y.J. Kim & Dr T. Ishibashi
2nd Global Animal Health Conference: 'Global Availability of Veterinary Medicines – Providing a Climate for Science and Innovation'	London (United Kingdom)	23-24 March	Dr E. Erlacher-Vindel
USAID: EPT Program Quarterly Partners' Meeting	Washington, DC (United States)	23-25 March	Dr K. Glynn & Dr J. Lasley
Early warning and response to non-food-borne zoonotic outbreaks – scope and purpose of the Expert Meeting, organised by ECDC	Stockholm (Sweden)	24 March	Dr F. Berlingieri
Workshop on Rabies	Accra (Ghana)	24-25 March	Dr L. Knopf
FAO/OIE Working Group on FMD	Rome (Italy)	24-25 March	Dr J. Domenech
FAO-EuFMD/EC/OIE Tripartite meeting on control of foot and mouth disease and other exotic diseases	Plovdiv (Bulgaria)	25 March	Prof. Dr N.T. Belev
6th meeting of the Steering Committee of CaribVET and CARICOM Meeting	Saint-François, Guadeloupe (France)	26 March – 2 April	Dr L.O. Barcos
WTO STDF Working Group Meeting	Geneva (Switzerland)	28 March	Dr S. Kahn
4th IHR Review Committee Meeting	WHO Headquarters, Geneva (Switzerland)	28 March	Dr S. Forcella
Visit of the Director General of the AOAD for OIE/AOAD memorandum of understanding activation	Khartoum (Sudan)	28-30 March	Dr G. Yehia
7th Meeting of the ADIS Steering Committee	OIE Headquarters, Paris (France)	29 March	Dr D. Chaisemartin, Dr N. Leboucq & Dr J.-P. Vermeersch
6th Meeting of the European Forum of Animal Welfare Councils (EuroFAWC)	Bergen (Norway)	29-30 March	Dr M. Varas
EDENext Kick-off meeting	Budapest (Hungary)	29-31 March	Dr K. Glynn
SADC Epidemiology and Informatics Sub-Committee half-yearly meeting	Arusha (Tanzania)	29-31 March	Dr P. Bastiaensen
50th Meeting of the WTO SPS Committee	Geneva (Switzerland)	30-31 March	Dr S. Kahn
5th Steering Committee Meeting of SOLICEP Project	Djibouti	31 March	Dr W. Masiga
Sub-Regional Inter-Agency Coordination Meeting	Panama City (Panama)	31 March	Dr J.J. Oreamuno
The African Days of Cultural and Scientific Integration (presentation on 'The Veterinary Services, a global public good')	Dakar (Senegal)	31 March – 1 April	Dr Y. Samaké
38th COSALFA Ordinary Meeting	Recife (Brazil)	31 March – 1 April	Dr M. Minassian

epidemiology & animal disease control programme

Nicaragua declares itself free from notifiable velogenic Newcastle disease

Declaration sent to the OIE on 7 January 2011 by Doctor Mauricio del Socorro Pichardo Ramírez, Director of Animal Health, General Directorate for Animal and Plant Health and Protection, Ministry of Agriculture and Forestry, Managua (Nicaragua)

Poultry farming is one of the most important activities in Nicaragua's agricultural and agribusiness sector and one of the country's strongest and most developed sectors. It contributes directly to the country's economic development, generating an annual income of around 230 million United States dollars (USD). Poultry production in Nicaragua is self-sufficient and supplies the domestic market. It has not been possible to expand outside the country owing to sanitary and trade barriers in the Central American region.

Nicaragua's poultry population is characterised mainly by poultry for trade, raised in industrial and semi-industrial farms for the production of table eggs and broiler chickens for consumption by the population. Most of these farms are in the Pacific region, where the main cities are located. All farms are under official control, through registration with georeferencing and information on production and health.

In Nicaragua, backyard poultry are found in rural areas and on the outskirts of urban centres. The Government of the Republic promotes social programmes providing for the delivery of poultry packages to vulnerable rural families nationwide. In Nicaragua, backyard poultry are of great importance for the Veterinary Services in the implementation of health campaigns for the prevention, control and eradication of poultry diseases under official surveillance.

Newcastle disease (ND) is included in the OIE List of notifiable diseases and, in Nicaragua, it is a notifiable disease (Ministerial Accord 30-2001 providing for ND notification).

As it is a highly transmissible disease whose occurrence and spread could cause heavy economic losses, the policy of the Ministry of Agriculture and Forestry (MAGFOR), incorporated into the emergency plan for the

confirmed occurrence of Newcastle disease (*Plan de Emergencia ante la Confirmación de la Aparición de la Enfermedad de Newcastle*), is aimed at early detection of ND and, where appropriate, at preventing its spread and rapidly eradicating it in poultry, carrier pigeons and other captive birds. Law 291 (Basic Law on Animal and Plant Health) mandates MAGFOR to manage and administer the compensation funds in national emergencies stemming from health problems in agriculture, aquaculture, fisheries, forestry and agroforestry.

Nicaragua's Veterinary Services form part of MAGFOR's General Directorate for Animal and Plant Health and Protection (DGPSA), in the Animal Health Directorate (DISAAN) and the Agrifood Safety Directorate (DIA). The Veterinary Services have nationwide coverage at department level. There are eight departmental offices, together with six land border posts, three posts in ports and one at the international airport. The Network of Veterinary Diagnostic Laboratories comprises the Central Laboratory and six regional laboratories, together with a National Laboratory for Chemical and Biological Waste.

The country maintains an agricultural quarantine system that it considers necessary to control ND:

- **External quarantine:** The health authorities allow only poultry, poultry products and by-products from ND-free countries to enter the country, which requirements are in line with OIE standards. At border posts, MAGFOR quarantine inspectors inspect all transport vehicles that could introduce such commodities and ensure that the requirements are met. MAGFOR uses laboratory tests to confirm the ND health status of birds when they enter the country.
- **Internal quarantine:** Should the presence of ND be suspected anywhere in the country, MAGFOR notifies the quarantine measures that should be applied, as well as measures relating to the movement of animals, animal products and by-products, inputs, materials and equipment. The measures are mandatory, as determined by MAGFOR.

In 2001, MAGFOR set up the National Programme for the Prevention, Control and Eradication of Newcastle Disease. Thereafter, ND surveillance activities started to be conducted in a planned way, by means of serological sampling in commercial and backyard farms.

The last case to be reported in Nicaragua – which was confirmed after isolating the virus – was in February 2002. The last report sent to the OIE dates back to October 2002 (serology). Since then, the disease has been monitored

by means of control tests but no trace of ND has been found. As from that date, control tests have been performed in the country's commercial and backyard farms as part of the National Poultry Programme. The parameters used for sampling, as well as the diagnostic techniques, are those that were jointly agreed within the Regional Technical Committee for Poultry Health. In addition, all industrial farms are sampled to detect ND, in addition to neighbouring backyard poultry flocks situated within a three-kilometre radius. The sampling frequency is three times a year.

In the past 10 years, a total of 60,911 analyses have been carried out to detect ND, not including the 7,800 samples analysed as part of the National Sampling Procedure for declaring the country free from velogenic Newcastle disease. All the analyses yielded negative results.

Article 10.13.3. of the *Terrestrial Animal Health Code* of the World Organisation for Animal Health (OIE) states: 'A country, zone or compartment may be considered free from ND when it has been shown that NDV infection in poultry has not been present in the country, zone or compartment for the past 12 months, based on surveillance in accordance with Articles 10.13.22. to 10.13.26.'

As the period stipulated by the OIE has elapsed and we have proof of the disease's absence since 2002, random probability sampling was carried out nationwide to confirm the absence of ND and to secure ND-free country status.

To demonstrate the presence or absence of ND, different designs were developed for backyard poultry and commercial poultry. The sampling unit defined for backyard poultry was the country's smallest administrative division: the *comarca*. The sampling unit defined for commercial poultry was the farm. Any farm whose production system was independent, in terms of geography, management and biosecurity, was considered as a separate and distinct farm. To calculate the number of *comarcas* and farms that needed to be sampled, the estimated prevalence was 2%, with 95% confidence for all cases, resulting in 113 farms and 147 *comarcas* to be sampled.

© Tomo.Yun (www.yunphoto.net/es/)
http://www.yunphoto.net/es/

After selecting the farms and *comarcas* to be sampled, a sample was taken from a sufficient number of birds to detect at least one infected animal, if any, where, once again, a prevalence rate, a level of confidence and a number of birds in the farm or the *comarca* were set. As ND is highly contagious and backyard and commercial poultry are held to be highly susceptible, it is reasonable to use an estimated prevalence of 10%, on the assumption that, if the disease were present, it would affect more than 10% of birds. If no evidence of ND is found, in theory the disease could exist at a level of under 10% but in

practice this is very unlikely and can be interpreted as absence of ND. A confidence level of 95% was considered for all cases.

From a total of 113 industrial and semi-industrial farms and 147 *comarcas* with backyard poultry, 7,800 blood sera were analysed using the haemagglutination inhibition (HI) test for the diagnosis of ND. In these 260 epidemiological units (113 farms and 147 comarcas), 1,560 viral isolations were carried out (six per epidemiological unit). Table I shows the number of farms and comarcas (epidemiological units) that needed to be sampled, as well as the number of samples taken.

Table I

Total number of samples required to declare the country free from Newcastle disease

Epidemiological unit	Nationwide	Epidemiological units to be sampled	Samples per epidemiological unit	Total samples
Exploitations Poultry farm	256	113	30	3,390
Comarca	5,018	147	30	4,410
Total		**260**		**7,800**

For ND diagnosis, serological samples were taken from 30 birds in each comarca and poultry farm. The haemagglutination inhibition technique was used to diagnose ND antibodies. Four of the 113 farms tested positive to haemagglutination. The HI test against hyperimmune sera of Newcastle disease and avian influenza was carried out on the samples from these farms. The results were positive for ND and negative for avian influenza. From these results it was concluded that a Newcastle disease virus had been isolated in the samples from these four farms, which were sent to the United States National Veterinary Services Laboratories (NVSL) in Ames, Iowa, for typing and sequencing. NVSL is an OIE Reference Laboratory for avian diseases, and its typing results revealed that the four samples were low-virulence (LoNDV) or consistent with a vaccine virus.

The national poultry sector has adopted effective vaccination programmes against ND, achieving vaccine coverage of 100% of poultry farms. The vaccines used in Nicaragua are registered by MAGFOR and are produced using exclusively lentogenic virus strains of Newcastle disease as the master seed.

From the results of the nationwide sampling procedure conducted to declare the country free from notifiable velogenic Newcastle disease, we can conclude the following:

- No circulation of any Newcastle disease virus variants was found in 256 of the 260 epidemiological units sampled. ND virus was isolated in four epidemiological units (farms).
- The results of tests carried out in the MAGFOR laboratory to determine the minimum lethal dose had already indicated that this was a low pathogenicity virus or a vaccine virus.
- The results of typing the four samples sent to NVSL in Ames, en Iowa, confirmed that the isolated viruses were indeed low pathogenicity or lentogenic, identical or almost identical to vaccine strains.
- The sampling results indicate that the VELOGENIC variant of Newcastle disease virus was NOT found.

We may therefore conclude that notifiable velogenic Newcastle disease does not exist in Nicaragua's poultry sector, as it has been demonstrated with 95% confidence that the disease is not present at a level exceeding 2% in *comarcas* and farms, which, in practical terms, is equivalent to absence of the disease.

OIE Expert Surveillance Panel on Equine Influenza Vaccine Composition

24 January 2011, OIE Headquarters

During the meeting of the Biological Standards Commission, at OIE Headquarters, Paris, 8-10 February 2011 (see page 17 of this *Bulletin*), the Commission endorsed the following conclusions and recommendations of the Expert Surveillance Panel on Equine Influenza Vaccine Composition on the composition of equine influenza vaccines for 2011

Conclusions and Recommendations

Influenza activity in 2010

During 2010, outbreaks and/or sporadic cases of equine influenza were reported by Brazil, Finland, France, Germany, Ireland, Sweden, the United Kingdom (UK) and United States of America (USA).

Sources of viruses characterised during 2010

Equine influenza A (H3N8) viruses were isolated and/or characterised from outbreaks in France, Ireland and the UK. At a quarantine station in Japan, equine influenza virus was isolated from a horse imported from Belgium.

Field data

Equine influenza virus infections were confirmed in both vaccinated and unvaccinated horses. Although some vaccines were updated in line with the 2004 recommendations, the current vaccines do not contain the virus strains from the two clades recommended for optimum protection. The detection of virus in a quarantine facility illustrates the continuing risk of the international spread of influenza by infected vaccinated horses.

Characterisation of viruses isolated in 2010

Viruses isolated in 2010 from five outbreaks in France, three in Ireland and seven in the UK were characterised genetically by sequencing of the haemagglutinin (HA) gene. The viruses isolated in the UK were also characterised antigenically by haemagglutination inhibition (HI), using ferret antisera. The virus isolated from the horse in the Japanese quarantine facility was genetically characterised.

Genetic characterisation

All HA1 sequences obtained from viruses were of the American lineage (Florida sub-lineage). All the viruses identified in France and the UK were characterised as A/eq/Richmond/1/07-like, i.e. clade 2 viruses. The virus isolated from the horse exported from Belgium to Japan was also a clade 2 virus. Two of the outbreaks in Ireland were caused by clade 2 viruses and one outbreak was caused by an A/eq/South Africa/03-like, i.e. clade 1 virus.

Antigenic characteristics

The HI data and antigenic cartography analysis of the HI data (Smith et al., 2004) available for viruses isolated in 2010 indicate that they are closely related to A/eq/Richmond/1/07 and clearly different from clade 1 viruses.

Conclusions

No Eurasian viruses were isolated in 2010. The majority of the isolated and characterised viruses were from the American clade 2 lineage (Florida sub-lineage). Only one outbreak investigated in 2010 was associated with a clade 1 virus. There was some evidence of a lack of vaccine efficacy against clade 2 viruses, i.e. that vaccines containing earlier viruses of the American lineage (such as A/eq/Newmarket/1/93) do not provide adequate protection against these viruses.

Level of surveillance

The panel continues to emphasise the importance of increased surveillance in different countries and rapid submission of viruses to Reference Laboratories for

OIE Expert Surveillance Panel on Equine Influenza Vaccine Composition

24 January 2011, OIE Headquarters

characterisation. This is essential if antigenic and genetic drift is to be monitored effectively on a global basis and the information relayed to vaccine manufacturers in a timely manner.

Recommendations

It is not necessary to include an H7N7 virus or an H3N8 virus of the Eurasian lineage in the vaccines as these viruses have not been detected in the course of recent surveillance.

Vaccines for the international market should contain both clade 1 and clade 2 viruses of the Florida sub-lineage.

– Clade 1 is represented by South Africa/03-like or Ohio/03-like viruses.

– Clade 2 is represented by Richmond/1/07-like viruses.

Manufacturers producing vaccines for a strictly national market are encouraged to liaise with Reference Laboratories to ensure full use of reference reagents in the selection of cross-reactive and immunogenic local strains.

Reference reagents

Freeze-dried, post-infection equine antisera to A/eq/Newmarket/77 (H7N7), A/eq/Newmarket/1/93 (American lineage H3N8), A/eq/Newmarket/2/93 (Eurasian lineage H3N8), A/eq/South Africa/4/03 (Florida clade 1, sub-lineage of American lineage) and an influenza-negative equine serum are available from the European Directorate for the Quality of Medicines (EDQM). These sera have been assigned single radial haemolysis values through an international collaborative study and can be used as primary reference sera for the assay.

Reference

Smith D.J., Lapedes A.S., de Jong J.C., Bestebroer T.M., Rimmelzwaan G.F., Osterhaus A.D. & Fouchier R.A. (2004). – Mapping the antigenic and genetic evolution of influenza virus. Science, **305** *(5682), 371-376.*

Peste des petits ruminants, growing incidence worldwide

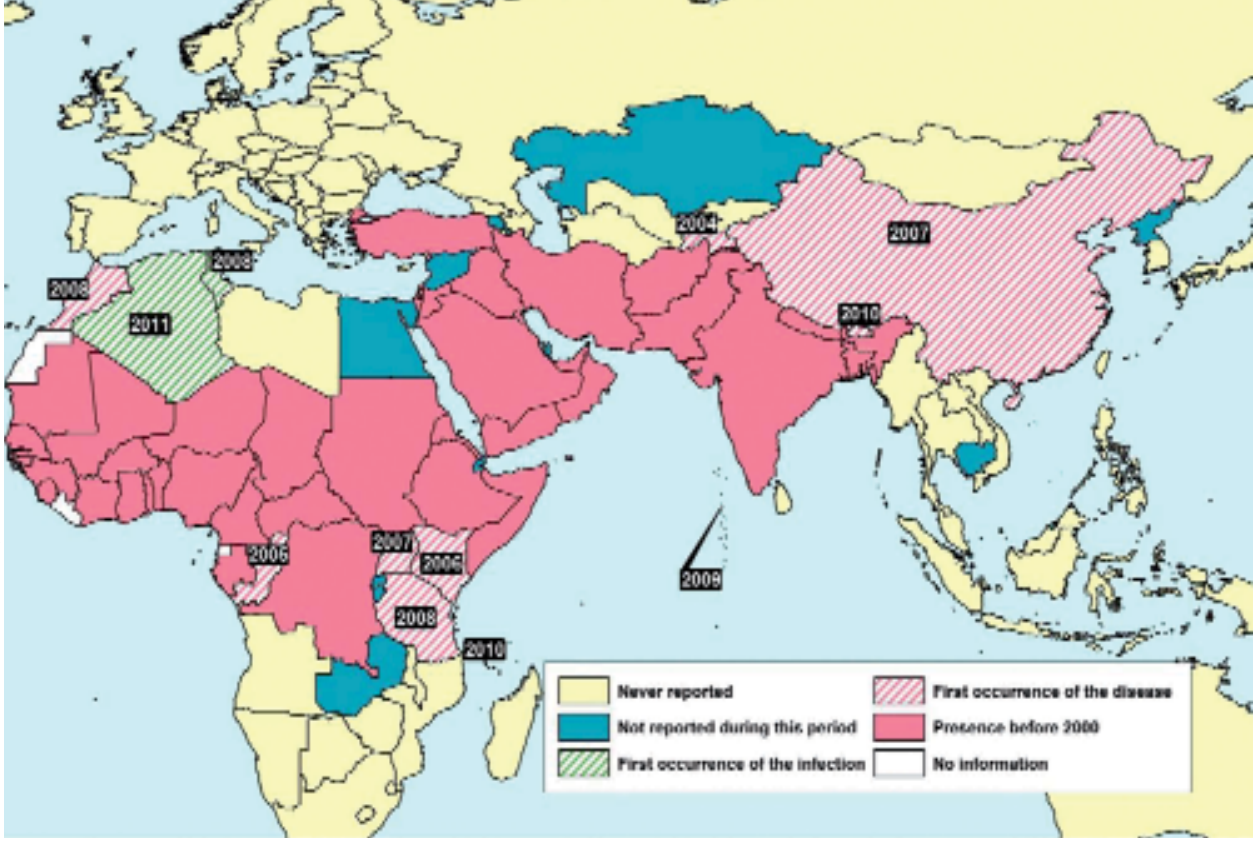
Like rinderpest, peste des petits ruminants (PPR) is caused by a virus of the *Morbillivirus genus* but, unlike rinderpest, which has now been eradicated, PPR remains one of the most serious viral infections of sheep and goats and its incidence is growing.

Geneviève Libeau, Olivier Kwiatek, Renaud Lancelot & Emmanuel Albina
French Agricultural Research Centre for International Development (CIRAD), BIOS Department, UMR15 CIRAD/INRA CMAEE Control of Exotic and Emerging Animal Diseases, Montpellier, France

PPR is spreading throughout Africa south of the Sahara and north of the equator, as well as Asia and the Middle East. It is a major factor of food insecurity for populations reliant on the production of small ruminants. Indeed, sheep and goats play an important role in the rural economy because they can be raised in a range of different production systems, even the most difficult ones. In spite of the huge socioeconomic impact of PPR, the lack of interest paid to the disease since its discovery is largely responsible for its spread. However, the recent changes observed in the geographical distribution of PPR, bringing it close to Europe, as well as in terms of host susceptibility, call for more attention to be paid to the disease.

In its acute form, PPR can cause herd mortality of between 80% and 100%. The disease is characterised by a rapid rise in body temperature, lacrimation, nasal discharge and an erosion of mucous membranes (Fig. 1: insert the two photos). In lethal infections, death occurs from bronchopneumonia, diarrhoea and severe dehydration. Although the virus is highly contagious, it can only be transmitted when a healthy animal comes into direct contact with the secretions or excretions of a sick animal. The clinical signs are often confused and exacerbated by secondary bacterial infections that make PPR difficult to diagnose and treat.

Fig. 1
Purulent nasal discharge in a goat suffering from peste des petits ruminants
(Photos from Abdallah Traoré, Central Veterinary Laboratory, Bamako, Mali)



Peste des petits ruminants evolution between 2000 and early 2011

Recent data

Described for the first time in Côte d'Ivoire (Gargadennec and Lalanne, 1942), PPR was long considered to be confined to West Africa but later it was described throughout Africa south of the Sahara and north of the equator, as well as the Middle East and Asia. Recent field and laboratory data show that PPR is spreading, with recent incursions reported into China and Bhutan, and that it is moving fast towards southern and eastern Africa where it affects a wide belt of countries south of the equator, from Gabon to Somalia. In northern Africa, the PPR epizootic that occurred in Morocco in 2008 has extended the disease's geographical distribution to the Mediterranean. This was the first episode of PPR to be reported in a Maghreb country.

The global spread of PPR is probably related to the progressive control and later, eradication, of rinderpest. The cessation of rinderpest vaccination campaigns and loss of antibody cross-protection between the two diseases means that small ruminants are now fully exposed to PPR. Its spread has certainly also been encouraged by the growing population of small ruminants, with the virus colonising new areas as a result of animal movements during seasonal transhumance, people fleeing from socio-politically and climatically insecure areas and the intensification of trade associated with human population growth. These cross-border movements have a very significant impact on the spread of many infectious agents and pose increasing problems for the surveillance and control of animal, zoonotic and human diseases (Domenech *et al.*, 2006).

There is now a resurgence of PPR in some areas, with a parallel incursion of new genotypes. Four phylogenetic lineages have been

identified, three of which are established in Africa (lineages I to III) and lineage IV, in Asia (Shaila *et al.*, 1996; Kwiatek *et al.*, 2007). The recent emergence of PPR is overturning knowledge about the geographical distribution of lineages and has led Reference Laboratories to update the distribution of current genotypes based on virus data from epidemiological surveillance surveys. Molecular typing has revealed that Asian lineage IV has become established in an area of Sudan where PPR has re-emerged, edging out the indigenous African lineage. Similarly, the introduction of PPR into Morocco in 2008, which was hitherto free from the disease, also involved lineage IV strains (Banyard *et al.*, 2010).

Changes in the allopatric speciation of lineages suggest that, when competing with indigenous strains, some strains have great power to spread because they are better adapted to the natural host and/or by switching to a new host. It is important to emphasise the increasing frequency of camel involvement in PPR. The camel is suspected of being a risk factor in the long-distance transmission of transboundary viral diseases causing major infections in other species. It has now been shown that camels are susceptible to the PPR virus (Roger *et al.*, 2001) and that the clinical expression of the disease is emerging in this species (Khalafalla *et al.*, 2010). Recent observations in Sudan suggest that camels could be victim to PPR, as well as acting as long-distance vectors (Kwiatek *et al.*, 2011). However, the scale of this phenomenon needs to be evaluated, especially from an epidemiological standpoint, by comparing long-distance movements of camels with the phylogeographic distribution of PPR virus strains.

Conclusion

The eradication of rinderpest suggests that a global control strategy could now be adopted for PPR. The disease's incidence is growing worldwide and continues to undermine the activities of the poorest producers. The possible transmission of PPR between different species – small ruminants and camels – compounds the already significant health constraints on livestock. However, the role of the different species involved in PPR epidemiology should be elucidated and the consequences of control strategies, including partial or full vaccination of susceptible species, should be tested. One possibility might be to assess the need to vaccinate camels during PPR vaccination campaigns. The existence of an effective vaccine against PPR, as well as sensitive and specific diagnostic tools, mean that strategies for controlling, and in the longer term eradicating, the disease could be envisaged.

References

Banyard A.C., Parida S., Batten C., Oura C., Kwiatek O. & Libeau G. (2010). – Global distribution of peste des petits ruminants virus and prospects for improved diagnosis and control. *J. Gen. Virol.*, **91** (Pt 12), 2885-2897. E-pub: 2010 Sep. 15.

Domenech J., Lubroth J., Eddi C., Martin V. & Roger F. (2006). – Regional and international approaches on prevention and control of animal transboundary and emerging diseases. *Ann. N.Y. Acad. Sci.*, **1081**, 90-107.

Gargadennec L. & Lalanne A. (1942). – La peste des petits ruminants. *Bull. Serv. Zootech. Epiz. AOF*, **5-6**, 16-21.

Khalafalla A.I., Saeed I.K., Ali Y.H., Abdurrahman M.B., Kwiatek O., Libeau G., Abu Obeida I. & Abbas Z. (2010). – An outbreak of peste des petits ruminants (PPR) in camels in the Sudan. *Acta Trop.*, **116**, 161-165.

Kwiatek O., Minet C., Grillet C., Hurard C., Carlsson E., Karimov B., Albina E., Diallo A. & Libeau G. (2007). – Peste des petits ruminants (PPR) outbreak in Tajikistan. *J. Comp. Pathol.*, **136**, 111-119.

Kwiatek O., Ali Y.H., Saeed I.K., Khalafalla A.I., Mohamed O.I., Abu Obeida A., Abdelrahman M.B., Osman H.M., Taha K.M., Abbas Z., El Harrak M., Lhor Y., Diallo A., Lancelot R., Albina E. & Libeau G. (2011). – Emergence in Africa of a new lineage of peste des petits ruminants virus. *Emerg. Infect. Dis.*

Roger F., Guebre Y.M., Libeau G., Diallo A., Yigezu L.M. & Yilma T. (2001). – Detection of antibodies of rinderpest and peste des petits ruminants viruses (Paramyxoviridae, Morbillivirus) during a new epizootic disease in Ethiopian camels (Camelus dromedarius). *Rev. Méd. Vét.*, **152**, 265-268.

Shaila M.S., Shamaki D., Forsyth M.A., Diallo A., Kitching R.P. & Barrett T. (1996). – Geographic distribution and epidemiology of peste des petits ruminants virus. *Virus Res.*, **43**, 149-153.

joint position statement approved by the directors general of the WHO, FAO and OIE

Vision

A world capable of preventing, detecting, containing, eliminating, and responding to animal and public health risks attributable to zoonoses and animal diseases with an impact on food security through multi-sectoral cooperation and strong partnerships.

The FAO-OIE-WHO Collaboration

Sharing responsibilities and coordinating global activities to address health risks at the animal-human-ecosystems interfaces

A Tripartite Concept Note

April 2010

BACKGROUND

Pathogens circulating in animal populations can threaten both animal and human health, and thus both the animal and human heath sectors have a stake in, and responsibility for, their control. Pathogens – viruses, bacteria or parasites – have evolved and perfected their life cycles in an environment that is more and more favourable to them and ensures their continuity through time by replicating and moving from diseased host to a susceptible new host.

While the integration of control systems across animal, food and human sectors has been attempted in some countries and regions, most country control systems are generally non-integrated with limited collaborative work. However, the recent efforts to control highly pathogenic avian influenza (HPAI) and contributions towards pandemic preparedness have re-emphasised the need for enhanced concentration on reducing risks associated with zoonotic pathogens and diseases of animal origin through cross-sectoral collaboration, and have underscored the fact that successful and sustained results are possible when functional collaborations are established as is the case in many countries and internationally.

While the Food and Agriculture Organization of the United Nations (FAO), the World Organisation for

Animal Health (OIE) and the World Health Organization (WHO) have long-standing experience in direct collaboration, the tripartite partners realise that managing and responding to risks related to zoonoses and some high impact diseases is complex and requires multi-sectoral and multi-institutional cooperation. This document sets a strategic direction for FAO-OIE-WHO to take together and proposes a long term basis for international collaboration aimed at coordinating global activities to address health risks at the human-animal-ecosystems interfaces.
A complementary agenda and new synergies between FAO, OIE and WHO will include normative work, public communication, pathogen detection, risk assessment and management, technical capacity building and research development.

FAO-OIE-WHO TRIPARTITE STRATEGIC ALIGNMENT

FAO, OIE and WHO recognise that addressing health risks at the human-animal-ecosystems interfaces requires strong partnerships among players who may have different perspectives on some issues and different levels of resources. These partnerships – which could include ones among international organisations, governments, civil society and donors – must be coordinated to minimise the burden on member countries of multiple monitoring, reporting and delivery systems, and to avoid duplicated efforts and fragmented outcomes.
A framework for collaboration is necessary at national and international levels, with clear roles and responsibilities.

There is also a need to strengthen animal and human health institutions, as well as partnerships, and to manage existing and novel diseases that will be of public health, agricultural, social and economic importance in the future. When appropriate, protocols and standards for managing emerging zoonotic diseases should be jointly developed. In the cases of high-impact zoonotic diseases, improvements in governance, infrastructure and capacity building will also prove valuable to secure the livelihoods of vulnerable populations.

A joint framework to address gaps and strengthen collaboration in human and animal health laboratory activities should be developed. The framework should cover the upgrading of facilities, training and collaboration between regional and international reference laboratories for diagnosis and quality assurance. The framework should also promote cooperation between human and animal surveillance systems in analysing available evidence and evaluating responses and the timely sharing of comparable epidemiological and pathogen data across the relevant sectors.

The three organisations will work to achieve alignment and coherence of related global standard setting activities (Codex Alimentarius, OIE and IPPC) referred to in the World Trade Organisation (WTO) Agreement on the Application of Sanitary and Phytosanitary Measures. This approach does not signify integrating these institutions or building new institutions; rather, the three agencies should continue to improve communication and coordination based on their respective existing structures and mechanisms, including consideration for the publication of common standards.

The existing Codex Alimentarius (FAO/WHO) framework for risk analysis can form the foundation for sound, scientifically-based risk assessment, management and communication. Similarly, the OIE has adopted and published global standards for terrestrial and aquatic animals recognised by the WTO. This alliance could lead to the preparation of tripartite protocols for risk assessment, management and communication, including recommendations and guidance for countries on identifying data gaps.

Effective strategies for improving national, regional and community level pandemic preparedness and response should be further developed or refined. This tripartite relationship envisages complementary work to develop normative standards and field programs to achieve ‘One Health’ goals.

CURRENT FAO-OIE-WHO COLLABORATION

The three organisations recognise a joint responsibility for addressing zoonotic and other high impact diseases and have been working together for several decades to minimise the health, social and economic impact from diseases arising at the human-animal interface by preventing, detecting, controlling, eliminating or managing disease risks to humans originating directly or indirectly from domestic or wild animals. FAO, OIE and WHO have created governance structures, established early warning systems and developed mechanisms to enhance coordination and support member countries.

The three organisations provide a neutral platform for nations to engage in dialogue and negotiations. WHO and FAO have 194 members and decentralised systems that represent their organisations in regional matters and in many cases have an accredited representative before the government. The OIE, with 178 Member Countries, has regional and sub-regional representation worldwide. The country delegates to the OIE, usually the national Chief Veterinary Officers, are government representatives nominated by ministers.

The three agencies collaborate to advance their own normative and standard scope-setting. For instance, WHO and FAO participate in OIE's *ad hoc* thematic and Working Group meetings (e.g. OIE Working Group on Animal Production Food Safety). WHO contributes to FAO's work on reducing biological safety risks, and OIE contributes to the Codex Alimentarius Commission (CAC) and its subsidiary bodies' work (Joint FAO/WHO Food Standards Programme) for food, animal and health aspects prior to processing and marketing guidance to norms that assist in food safety and food-borne pathogens.

The FAO-OIE-WHO Global Early Warning and Response System for Major Animal Diseases, including zoonoses, (GLEWS), combines the alert and response mechanisms of the three organisations in order to avoid duplication and coordinate verification processes. FAO also has numerous databases for which integration into GLEWS is required. To support the notification of cases of the main animal diseases, including zoonoses, and the subsequent analyses of these data, the OIE has developed the World Animal Health Information System and Database (WAHIS and WAHID). The official notifications are in the public domain and contribute to GLEWS.

Similarly, WHO and FAO produce INFOSAN, which alerts national focal points on the occurrence of regional or global concerns for a food safety event. The three organisations also participate in the Working Group on Animal Production Food Safety, established by OIE, to develop guidelines to enhance the responsibilities and effectiveness of Veterinary Services in improving food safety at both the international and national levels. FAO and OIE have developed a joint Network of Expertise on Animal Influenza (OFFLU) to support international efforts to monitor and control infections of avian influenza. Links between OFFLU and WHO's Global Influenza Programme are now strong, facilitating a free exchange of information and the establishment of joint technical projects between the two networks.

The organisations recognise the importance of and assist member countries to improve their national legislation by enabling veterinary and public health authorities to carry out key functions, including animal production, food safety, inspection and certification of animal products, importation or internal quality control of pharmaceuticals, as well as compliance with international obligations. Evaluation and gap analysis tools (such as the OIE Pathway for Veterinary Services) are used at the global level and must be further developed.

FAO, OIE and WHO have together developed numerous coordination mechanisms. Annual tripartite meetings are organised alternatively by the three organisations in order to improve coordination. The tripartite organisations also communicate weekly regarding matters of common interest and have liaison officers that function at the global level, which has facilitated the preparation of joint messages and shared publications. Technical experts from the three organisations regularly participate in technical meetings or consultations hosted by partner organisations and, at times, represent the other organisations at high level conferences.

The two principal agencies dealing with animal health issues, the OIE and the FAO, launched in 2004 the Global Framework for the Control of Transboundary Animal Diseases (GF-TADs), which provides a clear vision and framework to address endemic and emerging infectious diseases, including zoonoses. WHO is associated with this mechanism through GLEWS, in the case of zoonoses, where information exchange occurs daily.

The three international organisations have an important role in information generation and dissemination, networking and capacity building at various levels. Expert consultations, technical meetings and the elaboration of various documents ranging from guidelines and practical manuals to strategic and policy papers are readily made available to countries. For example, in 2004, a consortium of agencies, including FAO, OIE and WHO, developed the *International Portal on Food Safety, Animal and Plant Health (IPFSAPH)*, an online source to facilitate international trade in food and agricultural products.

At the regional level, FAO and OIE have established the Regional Animal Health Centres (RAHCs) that provide member countries with technical support and evaluate national and regional projects, supported where necessary by FAO and OIE networks of expertise to further advance international standards, provide guidance and promote capacity building. The Animal Health Regional Centres operate directly within the framework of the GF-TADs Agreement. Finally, FAO, OIE and WHO recognize Farmer Field Schools and livestock owners' training as an important tool in the development agenda, which if successful, can fully address problems surrounding zoonosis prevention and hygiene, best agricultural practices, and care and use of natural resources through concepts such as participatory approaches to learning.

JOINT ACTION FOR FUTURE COLLABORATION

Joint efforts should be engaged at regional and national levels to obtain deeper and sustainable political support for integrated prevention of diseases and the effect of high impact pathogens of medical and veterinary importance. There is a need for the joint development of effective interventions to ensure coherence of action and awareness among the general public and policy makers of risks and appropriate actions needed to minimise human infection by pathogens of animal origin.

Models for forecasting animal disease outbreaks should be developed in close collaboration with all relevant sectors and institutions so that animal disease outbreaks which precede human outbreaks can provide an early warning, and ensure preparedness and a targeted response. There is also a need to advocate for increased funding support and explore research partnerships with the private sector. The three agencies should align data collection, risk assessment and risk reduction measures, and focus on the development of outbreak investigation and response strategies which merge animal and human health dynamics into a comprehensive approach for disease detection and control. The development of capacity for joint risk assessment on priority zoonotic and other high impact diseases should be incorporated into coordinated regional action plans.

In order to achieve more effective management of zoonotic and other high impact diseases in the future, there is a global need to improve diagnostics, data analysis and risk assessment, epidemiology, social science and communication. Linking expert institutions through global networks within both the animal and health sectors would enable new real-time systems where methodology, data availability and responsibilities are shared both horizontally and vertically. Improved networking among countries promotes trust, transparency and cooperation.

THE WAY FORWARD

FAO, OIE and WHO are committed to working more closely together to align activities related to the animal-human- ecosystems interfaces in order to support member countries. The emergence of new or the re-emergence of existing animal diseases, including zoonoses, the growing threat of transboundary animal diseases, the impact of environmental changes and globalization, as well as new societal demands related to food security, food safety, public health and animal welfare, emphasise the critical need for collaboration between the three organisations.

Prevention of the emergence and cross-border spread of human and animal infectious diseases is a global public good with benefits which extend to all countries, people and generations. The tripartite partners encourage international solidarity in the control of human and animal diseases, while providing international support to member countries requesting assistance with human and animal disease control and eradication operations.

The three organisations envisage a coordination mechanism to better consolidate fragmented efforts at global, regional, national and sub-national levels. The establishment of a Ministerial Conference through which different international and country stakeholders voice expectations and determine future activities under a banner of consensus is required. As the principal technical organisations, FAO, OIE and WHO should lead and promote the agenda by organizing a joint Ministerial Conference involving ministers of agriculture and health at the global level to provide a platform to discuss issues related to animal and human health, including zoonoses, and the impact on health and development.

activities of reference laboratories & collaborating centres

Annual reports of Reference Laboratory and Collaborating Centre activities for 2010

Reports were received from 149 out of 158 Reference Laboratories and from 32 out of 35 Collaborating Centres for terrestrial animal diseases or topics. The Commission expressed its continuing appreciation for the enthusiastic support and expert advice given to the OIE by the Reference Laboratories and Collaborating Centres.

The full set of reports for 2010 will be supplied to Members and to all the Reference Laboratories and Collaborating Centres on a CD-ROM.

The international activities relevant to the work of the OIE are summarised in the following tables:

Reference Laboratories

Activities		Percentage of Laboratoires
General activities		
1	Test(s) in use or available for the specified disease	99%
2	Production and distribution of diagnostic reagents	89%
Specific OIE activities		
3	International harmonisation/standardisation of methods	78%
4	Preparation and supply of international reference standards	66%
5	Research into and development of new procedures	89%
6	Collection, analysis and dissemination of epizootiological data	71%
7	Provision of consultant expertise	84%
8	Provision of scientific and technical training	75%
9	Provision of diagnostic testing facilities	57%
10	Organisation of international scientific meetings	28%
11	Participation in international scientific collaborative studies	65%
12	Presentations and publications	88%
13	Inscription of diagnostic kits on the OIE Register	0.01%

Collaborating Centres

Activities		Percentage of Collaborating Centres
General activities		
1	Activities as a centre of research, expertise, standardisation and dissemination of techniques	96%
2	Proposal or development of any procedure that will facilitate harmonisation of international regulations applicable to the surveillance and control of animal diseases, food safety or animal welfare	73%
3	Placement of expert consultants at the disposal of the OIE	88%
Specific OIE activities		
4	Provision of scientific and technical training to personnel from OIE Member Countries	88%
5	Organisation of scientific meetings on behalf of the OIE	24%
6	Coordination of scientific and technical studies in collaboration with other laboratories or organisations	85%
7	Publication and dissemination of any information that may be useful to OIE Member Countries	85%

publications

October 2010
In English (exists also in French)
160 pp.
ISBN: 978-0-9222-3339-7

Fragonard Museum. The Écorchés

The Anatomical Masterworks of Honoré Fragonard

by Professor Christophe Degueurce

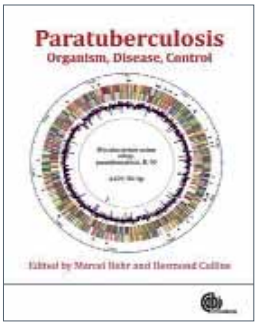
The national veterinary school at Alfort, on the outskirts of Paris, founded in 1766, was the second institution in Europe dedicated to animal medicine.

Its first director and professor of anatomy, Honoré Fragonard, the cousin of the celebrated painter, created the school's 'Cabinet', constantly adding to its anatomical collection of dissected and embalmed cadavers, human and animal, that he prepared in the interests of research and as teaching aids for his discipline.

Several specimens from this era are still displayed in the collections of the Musée Fragonard today; among them the famous flayed figures, human bodies dissected and dried by a complicated process and posed with theatrical skill.

The silent and tragic knight, Samson the champion, the dancing foetuses: all these subjects, known throughout the world today, give up the secrets of their tormented history and manufacture in this work.

The book concludes by bringing up the debates aroused by the 'plastinated corpses', direct descendants of Fragonard's flayed figures, which tour the world in the Bodyworld exhibitions of Dr Von Hagens and his imitators.



January 2010
In English
384 pp.
ISBN: 978-1-84593-613-6
orders@cabi.org

Paratuberculosis: Organism, Disease, Control

Edited by M.A. Behr & D.M. Collins

Paratuberculosis, also referred to as Johne's disease, affects cattle, goats, sheep, buffalo, deer and other ruminants. It is common worldwide and responsible for significant economic losses in the dairy industry. Recent advances in detection, vaccination and microbial genetics make this a timely book that examines the epidemiology of paratuberculosis, the organism that causes the disease, and practical aspects of its diagnosis and control. It also addresses the link between paratuberculosis in the food chain and human health implications, including Crohn's disease.

This book is of great value for researchers, practitioners and students in veterinary and animal science, veterinary microbiology, environmental biology, food microbiology and mycobacteriology, as well as livestock industry personnel.

3rd edition
2010
In English
362 pp.
ISBN: 978-1-84593-555-9
orders@cabi.org

Breeding for Disease Resistance in Farm Animals

Edited by S.C. Bishop, R.F.E. Axford, F.W. Nicholas & J.B. Owen

Addressing the principles of breeding animals for enhanced health and resistance to specific diseases, this new edition provides an updated review of the field and is illustrated with examples covering many diseases of importance to livestock production, across all major livestock species. Written by experts in the field, the book covers techniques and approaches, viruses, transmissible spongiform encephalopathies, bacteria, parasites, vectors, and broader health issues seen in production systems, including metabolic diseases. The book will be an essential reference for professionals in the field, scientists and researchers, students, breeders, vets, agricultural advisors and policy-makers.

September 2010
In English
428 pp.
ISBN: 978-92-64-08871-9
www.oecdbookshop.org/oecd/

Advancing the Aquaculture Agenda: Workshop Proceedings

By the Organization for Economic Co-operation and Development (OECD)

Aquaculture now provides more than 50% of the global supply of fisheries products for direct human consumption. Given stagnating capture fisheries and a growing demand for seafood, driven by demographics and changing consumption patterns, aquaculture is likely to become increasingly important for food security.

At a 2010 OECD workshop, policy-makers, academics, industry representatives, non-governmental organisations and international organisations gathered to discuss the economic, environmental and social implications of aquaculture. This publication presents a selection of key issues discussed at that workshop, including case studies of countries that provide specific examples of national approaches to aquaculture management.

2011
Bilingual French-English
352 pp.
ISBN: 978-2-9536-185-01
www.yvert.com/

Wild mammals
New classification of ungulates
Mammifères sauvages
Nouvelle classification des Ongulés

By M.-N. Goffin, A. François, C. Guintard & J.-P. Mangin
Editions Yvert & Tellier

Stamps of a sort...

Delving into the fields of both science and philately, *Wild Mammals* is a rather original book on hoofed animals. What started this adventure in publishing? A book published in 2006, *The Evolutionary Classification of Life Forms*, by Guillaume Lecointre, French zoologist and systems theoretician, whose novel way of classifying living creatures deserves to be discovered by a wider public.

One of the work's three authors is Jean-Pierre Mangin, President of the World Academy for Philately, who took up the challenge of avoiding any use of photographs to illustrate the book. Instead, Mangin has selected two thousand stamps and two hundred coins, notes and postcards for its iconography: a first in a zoology book destined for the general public.

Stamp artist Marie-Noëlle Goffin has filled in any gaps in the illustrations with her own drawings, some 18 of them, while Claude Guintard, Veterinary Doctor of Science at the Natural History Museum and Lecturer on Comparative Anatomy at the Nantes veterinary school (ONIRIS), provides scientific back-up. Veterinarian Alain François took charge of all aspects of the work related to the protection and hunting of wild game.

Dr Bernard Vallat at the opening ceremony in Versailles
(please see page 15)

Director General of FAO,
European Union Health and Consumer Safety Commissioner,
Directors General and Representatives of UNESCO, UICN and other International, Regional and National Organisations,
Head of Cabinet of the French Minister of Agriculture,
Representatives of National Vet2011 Committees,
Fellow veterinarians,
Honourable participants,

Official Opening Ceremony of the World Veterinary Year

Speech by the Director General of the World Organisation for Animal Health (OIE)

Versailles, 24 January 2011

The World Executive Council, in charge of organising the celebration of the 250th anniversary of the veterinary profession, did me the very great honour of appointing me President right from the start. I was deeply touched by this expression of trust and indeed greatly motivated as I have always sought to achieve the widest possible public recognition of the essential role played by our profession on behalf of society at large. Since planning for this celebration began, I have been working with Prof. Chary, who is in charge of the logistics and coordination, and I should like to take this opportunity today to publicly thank him and his team.

Louis XV, Bertin and Bourgelat were true visionaries who realised that their society needed veterinarians, not just as animal doctors but for their valuable contribution to public health.

Our Council will therefore make sure that throughout the year 2011 priority is given to communication on all the contributions made by the many different facets of the veterinary profession.

My predecessors have said all there is to say on the past and present. I shall therefore venture a look into the future.

The veterinarian is central to the human–animal relationship, which is so important for the future of us all. The world's requirements, and indeed world demand, for milk, eggs, meat, leather, wool, honey, fish and crustaceans are increasing at a faster rate than economic growth and the world's population. The hundreds of millions of people in emerging countries who are now leaving behind poverty and acquiring middle-class status, want access to the animal protein they have been without for so long. In most cases, animal production will intensify to meet this demand and veterinarians must be on hand to help solve the animal health, animal welfare and environmental problems that are bound to arise in both terrestrial and aquatic animal production.

Increasing urbanisation places increasing emphasis on the social benefits to be derived from animals, for companionship, sport and leisure. Here, too, veterinarians play an essential role in monitoring the risks and opportunities associated with these developments while continuing their work as animal doctors.

The emergence of health risks associated with globalisation and climate change creates an ever greater need for risk managers at international, regional and national level. Among these, veterinarians already play and will continue to play a leading role, not just at public-sector level, but also at private-sector level through the many practitioners working under public contract, for instance performing disease surveillance and providing a first level of alert, so that biological disasters, natural or deliberate and regardless of whether they threaten animals, humans or both, can be stopped at their source in animals.

As Bourgelat so rightly understood, veterinarians also have a role to play in advancing knowledge, teaching others and contributing to biological research. Veterinary education gives an understanding of both the normal physiological state and the pathological state. Understanding the vast complexity of the subject helps to make veterinarians resourceful but also encourages modesty and caution thereby helping them to avoid numerous potential technical or policy errors.

The development and distribution of veterinary medicines and vaccines is also an essential activity, given that parasites, bacteria, viruses and other pathogens are constantly adapting. Nevertheless, promoting and controlling their

Official Opening Ceremony of the World Veterinary Year

Speech by the Director General of the World Organisation for Animal Health (OIE)

Versailles, 24 January 2011

prudent use is also a priority, requiring strong mobilisation of the profession.

The veterinary profession is therefore a profession with a future. Yet the responsibilities that it carries cannot be exercised without a framework of ethics and rules. These responsibilities are too great for the veterinary profession to be left to its own devices in our globalised world.

Consequently, we must ensure that the profession is regulated at global, regional and national levels. The basic principles designed to govern this regulation have already achieved a consensus of the 178 Member Countries of the OIE and are published in the form of international standards in the *Code*.

The core of global regulation of the veterinary profession is founded on the Veterinary Services, as defined by the OIE, namely the conjunction of the national Veterinary Authority and its staff and all those in the private sector who carry out missions in the field of animal health, animal welfare and veterinary public health, within the framework defined by the national Veterinary Authority. The international standards notably include within this field the concepts of ethics, independence and professional competence, which are essential to ensure the quality and integrity of all the missions carried out by the veterinary profession on behalf of the community and its citizens.

The standards also clearly require all countries to have an independent body responsible for controlling the quality and professional conduct of veterinarians practising in each country. This is an essential measure and must be universally applied to help ensure the excellence of the profession and optimal performance of all its responsibilities, and to enable unacceptable situations to be dealt with appropriately. Lastly, the importance of the quality of initial and continuing veterinary education is highlighted in the OIE standards and safeguarding its excellence must be one of the missions of the independent statutory body.

The OIE is currently working with the world veterinary education community to develop new guidelines listing the basic minimum knowledge to be acquired by anyone wishing to join the veterinary profession.

All our Member Countries have agreed on the view that veterinary education must also include components relating to the concept of 'global public good' and not just components that respond to market forces. Over and above a good knowledge of both the normal and the pathological state, disciplines such as infectious diseases, epidemiology, animal welfare and food safety must not be overlooked, however strong market pressures and the need for more income-generating activities may be.

This basic educational content must of course be tailored to leave room for other topics relating to the cultural and economic specificities and priorities of each country or region.

The OIE will be presenting its proposals in Lyons, on 13 and 14 May 2011, at a Conference that will be one of the key events of World Veterinary Year, in the very place where the world's first veterinary school was created.

To contribute towards the adoption and dissemination of all these principles, the OIE will use the concepts of 'global public good' and 'good veterinary governance'.

The concept of 'global public good' is founded on the notion of a public good as an activity that is beneficial to all people and all future generations. These activities are eligible for support from public financial contributors and not solely responding to simple market forces.

A majority of the activities of the veterinary profession correspond to this concept and this should lead to partnerships and the resulting legitimate claims directed at the public authorities, without losing sight of the realities of the market in these different contexts.

The concept of 'good veterinary governance', emphasised in the address by Margaret Chan, was born out of discussions following the biological disasters of recent years, such as the BSE crisis, avian influenza and the considerable damage inflicted by foot and mouth disease and bluetongue.

Official Opening Ceremony of the World Veterinary Year

Speech by the Director General of the World Organisation for Animal Health (OIE)

Versailles, 24 January 2011

The OIE has demonstrated that countries equipped with the appropriate legislation and having public and private-sector components of the Veterinary Services that comply with international standards of quality have been successful in the early detection and immediate eradication of outbreaks of even the most dreaded animal diseases, whether transmissible to humans or otherwise.

The effectiveness of these systems depends on their receiving adequate financial and human resources.

Countries that lack the capacity to comply with these recommendations represent a serious threat to the international community. If their situation is the result of poverty, it is the duty and in the interests of rich countries to help them comply with standards of 'good veterinary governance'.

The Member Countries of the OIE, strongly supported in this respect by leading development donors, such as the World Bank, the European Commission and numerous developed countries, prompted the OIE to develop a tool for evaluating the compliance of national Veterinary Services (including their public and private-sector components) with duly adopted and published standards of 'good veterinary governance'.

This evaluation tool, the PVS, which uses teams of experts trained and accredited by the OIE, has already been applied for by 110 countries. This evaluation is in most cases followed by a 'Gap Analysis' mission that provides the evaluated countries with programmes to help them comply with the relevant standards. These programmes include detailed costs, and can be used to apply for funding, either internally or from donors. This policy is having a considerable impact at a world level and is helping to protect the international community from incipient health crises while helping the veterinary profession worldwide to fulfil its responsibilities more effectively.

However, the OIE does not claim to be able to solve alone the issues relating to governance.

We very much count on our key partners, such as FAO and WHO, to have a positive influence on governments and to acknowledge the importance of the veterinary components in public health programmes and agricultural production development programmes. Furthermore, I am delighted to have the opportunity to thank UNESCO, its Director General, and its representative who is here with us today, for the interest shown in all our global scientific and educational objectives, the European Union and DG SANCO for their most valuable support, and indeed all the other sponsors.

We also count on common sense to continue to recognise that the coexistence of humans with animals, both domestic and wild, constitutes an immense but fragile wealth. Veterinarians must play a considerable role in managing this coexistence, both today and in the future.

However, it is imperative to develop communication on the profession and its role. You have just seen the film VET2011. With the support of our Member Countries and, in particular, the European Union, represented by the Commission, we have created, in liaison with VET2011, video communication tools, downloadable from the OIE website (www.oie.int – 'Access all the Media Resources' on the home page), illustrating all the facets of the veterinary profession. You are recommended to download them for use in your countries. Their use is free and they are designed in such a way that they can be offered to television channels (they have been translated into 23 languages) and any other type of screening, for example at public meetings. We also request you to promote the World Veterinary Year Photo Competition, launched with the support of the European Commission (detailed information on the website and also in the 'Media Resources' section).

Let us work together to ensure that the veterinary profession retains its excellence and fulfils all the hopes placed in it, and let us go on protecting it from all the risks that it faces.

That is the main message I want you to convey throughout this anniversary year.

Bernard Vallat

Veterinarians make a noise at the International Green Week in Berlin and the International Agricultural Show in Paris!

Two key events to promote the 'Vets in Your Daily Life' campaign

Highlights of the events may be viewed on the OIE website www.oie.int/en/for-the-media/vet-2011

Berlin, 21-30 January 2011

Almost 30,000 people crowded around the OIE/European Commission (EC) stand. A birthday cake celebrating 250 years of the veterinary profession was cut by Ilse Aigner, German Minister of Food, Agriculture and Consumer Protection; Paola Testori Coggi, Director-General for Health and Consumers at the European Commission and OIE Director General, Bernard Vallat.

Activities on the stand were designed to be both educational and entertaining. Visitors showed a keen interest in the work of the OIE and the feedback was positive!

Paris, 19-27 February 2011

Over 40 students from the four French veterinary schools supported the event, helping to promote World Veterinary Year and the 'Vets in Your Daily Life' campaign. Visitors were encouraged to take part in the 'veterinary round' which took in the six stands of our partners in the campaign and ended up at the OIE/EC stand. Children were particularly enthusiastic, always willing to learn more about becoming a vet. The interactive wall and various quizzes managed to draw people's attention to the many and varied roles of veterinarians.

The event was a tremendous success, with more than 50,000 visitors to the stand. Several leading politicians also came along, among them: the President of the Republic of Gabon, Ali Bongo Ondimba; the Bulgarian Minister of Agriculture, Miroslav Naydenov; the European Commissioner for the Internal Market and Services, Michel Barnier, and the French Minister of Agriculture, Bruno Le Maire.

Left to right: Dr Jean-Luc Angot, Dr Bernard Van Goethem, Mr Bruno Le Maire, Dr Bernard Vallat

The French Minister of Agriculture, Bruno Le Maire, cuts the veterinary profession's 250th birthday cake with Dr B. Vallat, Dr B. Van Goethem from the European Commission Directorate General for Health and Consumers (DG SANCO) and Dr Jean-Luc Angot, OIE Delegate of France

The European Commissioner for the Internal Market and Services, Michel Barnier, takes time out for a photo at the OIE/EC stand at the SIA in Paris

OIE Global Conference on Wildlife

Animal Health and Biodiversity – Preparing for the Future

Paris (France), 23-25 February 2011

Recommandations

Around 400 participants from over 100 countries attended this unique international forum from a variety of organisations, including national authorities and international, regional and national organisations, as well as the private sector. The following Recommendations, which were discussed and adopted by all participants at the end of the Conference, will guide the OIE's future policies on wildlife health and biodiversity.

The abstracts and power point presentations given at the Conference, as well as these final Recommendations, are all available in the three official languages of the OIE, on the OIE Website at www.oie.int/en/conferences-events/all-oie-world-conferences/presentations recommendations/.

CONSIDERING

1. *The emergence and re-emergence of diseases that are transmissible among wildlife, domestic animals and humans,*

2. *The societal, economic and ecological value of diverse and healthy wildlife populations,*

3. *The key contribution of biodiversity and ecosystems' services to health and the need to encourage research and expand knowledge on its interactions,*

4. *The need to increase the capacity of all countries worldwide to conduct surveillance, achieve early detection, and initiate an appropriate response to outbreaks and spread of diseases in wildlife,*

5. *The fundamental responsibilities of Veterinary Services and their government partners to protect and improve animal health, including aspects related to wildlife and biodiversity,*

6. *That the OIE is continuously developing and updating standards and trade-facilitating mechanisms, such as disease-free zoning, compartmentalisation and safe trade in animal-origin commodities, to harmonise national regulation that contributes to addressing the ecosystem interface between wildlife and domestic species,*

7. *That organisations internationally and nationally responsible for the delivery of public health, Veterinary Services, wildlife and the environment may be accommodated in different institutional units,*

8. *The increased need for animal protein for growing populations worldwide,*

9. *The changes in land use and management that may lead to new or modified interfaces between humans, domestic animals and wildlife that could favour disease transmission and loss of biodiversity,*

10. *The need for multidisciplinary commitment and cooperation by stakeholders including public and non-governmental organisations to achieve mutually beneficial outcomes within the wildlife/domestic animal and human ecosystem interface.*

THE PARTICIPANTS OF THE OIE GLOBAL CONFERENCE ON WILDLIFE RECOMMEND THE OIE

1. *To continue developing science-based standards on disease detection, prevention, and control as well as safe trade measures to harmonise the policies related to disease risks at the interfaces between wildlife, domestic animals, and humans.*

OIE Global Conference on Wildlife

Animal Health and Biodiversity – Preparing for the Future

Paris (France), 23-25 February 2011

2. *To continue supporting and updating the notification mechanisms of wildlife diseases through the global information systems OIE WAHIS and WAHIS-Wild, while carefully considering the possible impact of such notification by Members on the trade in domestic animals and their products, and to further promote data-sharing at the international level on the GLEWS platform.*

3. *To assist Members to strengthen their Veterinary Services to protect animal health including aspects related to wildlife and biodiversity using, if needed, the OIE PVS Pathway.*

4. *To encourage OIE Delegates to utilise their OIE focal points on wildlife to identify needs for national capacity building.*

5. *To support Members' ability to access and utilise appropriate sampling and diagnostic expertise, as well as validated tools for disease surveillance and management in domestic and wild animals.*

6. *To encourage research to expand the scientific basis for the protection of biodiversity and the environment to promote animal health and public health.*

7. *To encourage systematic inclusion, in the curriculum for veterinary education, of the promotion, the protection and the improvement of animal health and animal welfare including aspects related to wildlife and biodiversity.*

8. *To explore opportunities for communication and establishing strong collaboration with relevant global public and private organisations working on wildlife and biodiversity such as FAO[1], WHO[2], UNEP[3], IUCN[4], CIC[5], CITES[6] and other relevant Multilateral Environmental Agreements and international organisations to strengthen support for existing regulations on trade in wildlife and wildlife products and advocate the need for mobilisation of resources in this area.*

9. *To continue to develop and update OIE strategies and policies on wildlife and biodiversity through the work of the Scientific Commission and its Working Group on Wildlife Diseases as well as the network of OIE Reference Laboratories and Collaborating Centres.*

RECOMMEND THE OIE MEMBERS

10. *To continue to implement international standards and guidelines on prevention and control of diseases including those transmissible among wildlife, domestic animals and humans.*

11. *To continue to implement international standards and guidelines to facilitate the acceptable, legal trade of wildlife animals and wildlife products and to help in reducing the illegal trade in wildlife.*

12. *To notify diseases in wildlife through WAHIS and WAHIS-Wild, including in quarantine facilities, while carefully acknowledging when the notifications should not impact on trade of domestic animals and their products with commercial partners according to the OIE standards on relevant diseases.*

13. *To ensure that the national Veterinary Services and their partners fulfil their responsibilities on aspects of biodiversity conservation, animal health and animal welfare as they relate to wildlife and the environment, including appropriate legislation and regulation, and, where needed, seek assistance through the OIE PVS Pathway to improve their services.*

14. *To nominate and support national OIE Focal Points for Wildlife in their tasks and encourage their collaboration with partner agencies and organisations.*

15. *To seek and apply appropriate sampling and diagnostic expertise and validated disease management tools for wildlife diseases, with the participation of private veterinarians, medical doctors, community workers, fishers, hunters, rangers, and other stakeholders.*

16. *To support relevant research to expand the scientific basis for the protection of biodiversity and the environment to promote animal health as well as public health.*

17. *To support systematic inclusion, in the curriculum for veterinary education, of the promotion, the protection and the improvement of animal health and animal welfare including aspects related to wildlife and biodiversity.*

1- Food and Agriculture Organization of the United Nations
2- World Health Organization
3- United Nations Environment Programme
4- International Union for Conservation of Nature
5- International Council for Game and Wildlife Conservation
6- Convention on International Trade in Endangered Species of Wild Fauna and Flora

18. *To encourage public and private components of Veterinary Services to play an active role in promoting biodiversity and protecting wildlife.*

19. *To foster effective communication and collaboration at the national and regional levels among different governmental agencies that share responsibilities for the environment and the health of wildlife, livestock and the public.*

20. *To explore and promote opportunities for communication, collaboration and partnerships with relevant public and private organisations with an interest in wildlife management and biodiversity including the tourism industry, private veterinarians and medical doctors, natural park and zoo managers, rangers, hunters, fishers, conservation associations and local indigenous communities and stakeholders.*

21. *To promote the adoption of legislation to clarify or define ownership of wildlife by people and organisations.*

OIE/Apimondia Symposium on Diagnosis and Control of Bee Diseases

Buenos Aires, Argentina, 19-20 September 2011

Bee losses have become an increasingly serious problem throughout the world. The economic losses can only be roughly estimated, but they exceed by many times the total output of honey production. Because of its role in plant pollination, the honey bee is regarded as an extremely important animal, ranking immediately after cattle and sheep. The reasons for bee losses are manifold and range from environmental influences to pathogenic agents. In addition to providing an opportunity to determine the cause of bee losses, this symposium will also make an important contribution towards research into and harmonisation of methods for the diagnosis and control of bee diseases.

The symposium will take place from 19 to 20 September 2011, just before the International Apimondia Congress in Buenos Aires, Argentina. The number of participants is limited. Registration therefore needs to be completed as soon as possible. Please contact the conference secretariat at **beehealth.2011@web.de** for more information on this event.

2011 agenda

July

15th International Congress on Animal Hygiene (ISAH 2011): Animal Hygiene and Sustainable Livestock Production
3-7 July
Vienna (Austria)
contact@isah2011.info
www.isah2011.info

34th Session of the Codex Alimentarius Commission
4-9 July
Geneva (Switzerland)
Codex@fao.org
www.codexalimentarius.net/web/index_fr.jsp

Codex Committee on Food Hygiene
14-15 July
Grange (Ireland)
Codex@fao.org
www.codexalimentarius.net/web/index_fr.jsp

August

OIE Scientific Commisssion for Animal Diseases
30 August – 2 September
Paris (France)
Scientific.dept@oie.int

September

Global Conference on Rabies Control
7-9 September
Incheon-Seoul (Republic of Korea)
oie@oie.int

OIE/Apimondia Symposium on Diagnosis and Control of Bee Diseases
19-20 September
Buenos Aires (Argentina)
beehealth.2011@web.de
www.snapiculture.com

OIE Terrestrial Animal Health Standards Commission
12-23 September
Paris (France)
trade.dept@oie.int
www.oie.int/TAHSC/eng/en_tahsc.htm

OIE Regional Seminar on Communication
29-30 September
Prague (Czech Republic)
regactivities.dept@oie.int

October

OIE Aquatic animal Health Standards Commission
3-7 October
Paris (France)
trade.dept@oie.int

11th Conference of the OIE Regional Commission for the Middle East
3-7 October
Kuwait
regactivities.dept@oie.int

30th World Veterinary Congress 2011 World Veterinary Association/South African Veterinary Association
10-14 October
Cape Town (South Africa)
Petrie@savetcon.co.za
www.worldvetcongress2011.com

SPS Committee (Agreement on Sanitary and Phytosanitary Measures)
10-14 October
Geneva (Switzerland)
www.wto.org/english/tratop_e/sps_e/sps_e.htm

Annual Meeting of OIE Regional and Sub-Regional Representations
25-28 October
Paris (France)
regactivities.dept@oie.in

November

27th Conference of the OIE Regional Commission for Asia, the Far East and Oceania
19-25 November
Tehran (Iran)
regactivities.dept@oie.int

2nd World Conference on Biological Invasions and Ecosystem Functioning (BIOLIEF 2011)
21-24 November
Mar del Plata (Argentina)
biolief@grieta.org.ar

2012

February

OIE Scientific Commission for Animal Diseases
6-10 February
Paris (France)
Scientific.dept@oie.int

July

Joint WDA EWDA Conference – Convergence in Wildlife Health
22-27 July
Lyons (France)
wda2012.vetagro-sup.fr/

August

International Symposium on Veterinary Epidemiology and Economics
20-24 August
Maastricht
(The Netherlands)
a.seeverens@zinmaastricht.nl
www.isvee13.org/

September

IABS (International Association for Biologicals) Conference: Alternatives to Antibiotics in Animal Health: Challenges and Solutions
26-28 September
OIE Headquarters
Paris (France)
oie@oie.int

questions and answers

What role did the OIE play in eradicating rinderpest?

Rinderpest was eradicated in collaboration with FAO[1] as part of GREP[2]. The OIE was responsible for conducting the procedure for declaring all countries free from rinderpest. As a result of this programme, called 'OIE Pathway', which was launched in 1989, a total of 198 countries in the world were declared officially free of rinderpest.

The OIE declared the last of these countries to be rinderpest free in May 2011, providing official confirmation that the disease was no longer present and had been successfully eradicated from the entire planet. The OIE played a key role at the scientific level (control methods) and was an important political influence in obtaining the finances to eradicate the disease in developing countries

Once the disease has been eradicated, is there any risk of it recurring?

The eradicated rinderpest virus will be preserved in just a few laboratories to limit the risk of accidental leaks or of it being misappropriated for war or terrorist purposes.

First the OIE and FAO will support their Members in collecting all the virus strains stored in various laboratories and universities throughout the world, with the aid of the OIE's scientific network of Reference Laboratories and Collaborating Centres, the network of faculty deans and veterinary schools and the Delegates of OIE Members.

Vaccine stocks will also be stored at strategic locations in case of a natural or intentional recurrence of the disease, which will need to be contained. This process could take several years to complete.

Which could be the next animal disease to be eradicated?

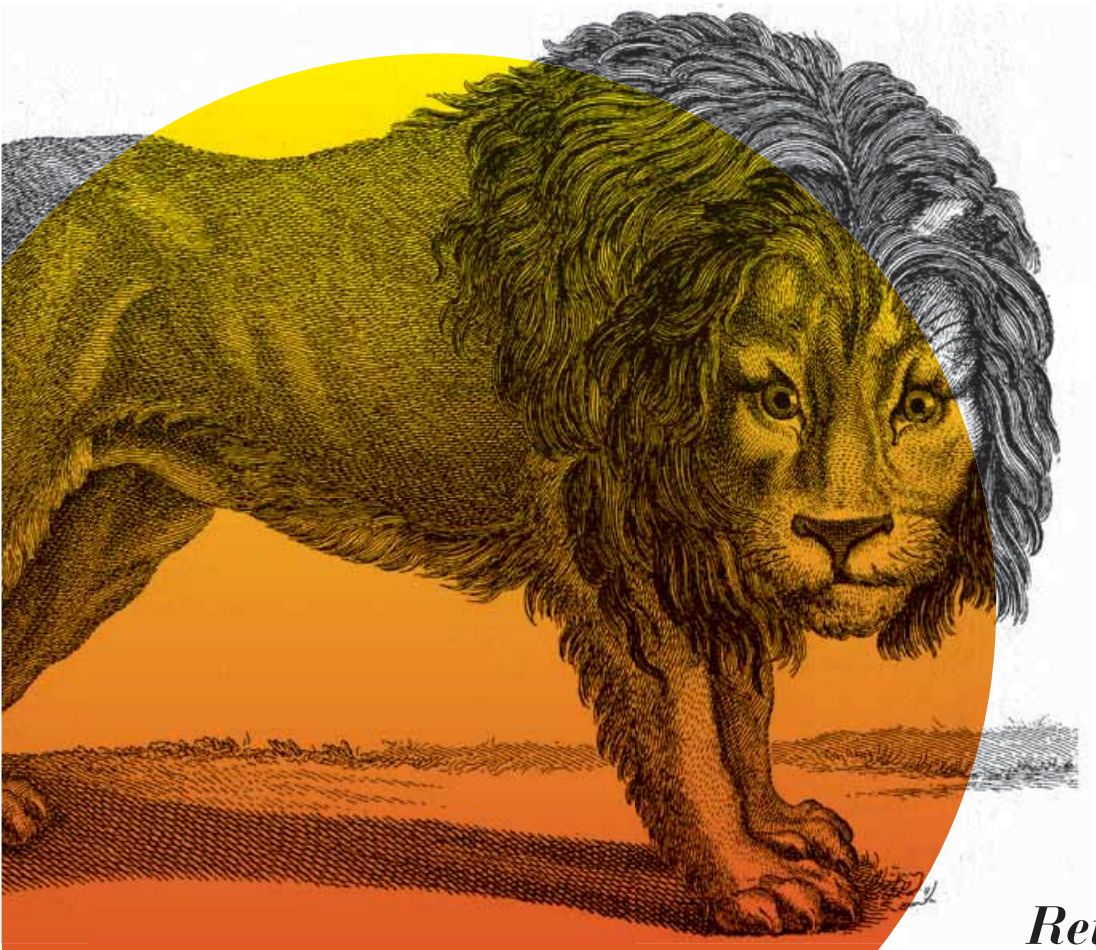
Certainly the next great battle for the OIE will be to eradicate foot and mouth disease but this would require the use of several different vaccines to combat all seven existing virus serotypes, and this will take several years.

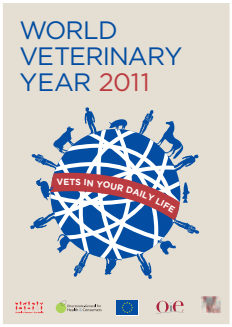
However, peste des petits ruminants, like rinderpest, is linked to only one active virus serotype in the world and the available vaccine is effective. So peste des petits ruminants is also a potential candidate for the next eradication programme but, whatever the next disease to be eradicated, the process will take several decades and will require a significant effort from donors and fund-providers.

1- FAO: Food and Agriculture Organization of the United Nations
2- GREP: Global Rinderpest Eradication Programme

OIE members (178)

AFGHANISTAN
ALBANIA
ALGERIA
ANDORRA
ANGOLA
ARGENTINA
ARMENIA
AUSTRALIA
AUSTRIA
AZERBAIJAN
BAHAMAS
BAHRAIN
BANGLADESH
BARBADOS
BELARUS
BELGIUM
BELIZE
BENIN
BHUTAN
BOLIVIA
BOSNIA AND HERZEGOVINA
BOTSWANA
BRAZIL
BRUNEI
BULGARIA
BURKINA FASO
BURUNDI
CAMBODIA
CAMEROON
CANADA
CAPE VERDE
CENTRAL AFRICAN REP.
CHAD
CHILE
CHINA (PEOPLE'S REP. OF)
CHINESE TAIPEI
COLOMBIA
COMOROS
CONGO
CONGO (DEM. REP. OF THE)
COSTA RICA
CÔTE D'IVOIRE
CROATIA
CUBA
CYPRUS
CZECH REPUBLIC
DENMARK
DJIBOUTI
DOMINICAN REP.
ECUADOR
EGYPT
EL SALVADOR
EQUATORIAL GUINEA
ERITREA
ESTONIA
ETHIOPIA
FIJI ISLANDS
FINLAND
FORMER YUG. REP. OF MACEDONIA
FRANCE
GABON
GAMBIA
GEORGIA
GERMANY
GHANA
GREECE
GUATEMALA
GUINEA
GUINEA BISSAU
GUYANA
HAITI
HONDURAS
HUNGARY
ICELAND
INDIA
INDONESIA
IRAN
IRAQ
IRELAND
ISRAEL
ITALY
JAMAICA
JAPAN
JORDAN
KAZAKHSTAN
KENYA
KOREA (DEM PEOPLE'S REP. OF)
KOREA (REP. OF)
KUWAIT
KYRGYZSTAN
LAOS
LATVIA
LEBANON
LESOTHO
LIBYA
LIECHTENSTEIN
LITHUANIA
LUXEMBOURG
MADAGASCAR
MALAWI
MALAYSIA
MALDIVES
MALI
MALTA
MAURITANIA
MAURITIUS
MEXICO
MICRONESIA (FEDERATED STATES OF)
MOLDOVA
MONGOLIA
MONTENEGRO
MOROCCO
MOZAMBIQUE
MYANMAR
NAMIBIA
NEPAL
NETHERLANDS
NEW CALEDONIA
NEW ZEALAND
NICARAGUA
NIGER
NIGERIA
NORWAY
OMAN
PAKISTAN
PANAMA
PAPUA NEW GUINEA
PARAGUAY
PERU
PHILIPPINES
POLAND
PORTUGAL
QATAR
ROMANIA
RUSSIA
RWANDA
SAN MARINO
SAO TOME AND PRINCIPE
SAUDI ARABIA
SENEGAL
SERBIA
SEYCHELLES
SIERRA LEONE
SINGAPORE
SLOVAKIA
SLOVENIA
SOMALIA
SOUTH AFRICA
SPAIN
SRI LANKA
SUDAN
SURINAME
SWAZILAND
SWEDEN
SWITZERLAND
SYRIA
TAJIKISTAN
TANZANIA
THAILAND
TIMOR-LESTE
TOGO
TRINIDAD AND TOBAGO
TUNISIA
TURKEY
TURKMENISTAN
UGANDA
UKRAINE
UNITED ARAB EMIRATES
UNITED KINGDOM
UNITED STATES OF AMERICA
URUGUAY
UZBEKISTAN
VANUATU
VENEZUELA
VIETNAM
YEMEN
ZAMBIA
ZIMBABWE





250TH VETERINARY ANNIVERSARY

25% OFF

OIE BOOKS ORDERED VIA THE e-BOOKSHOP

***PROMO CODE: VET250**

New Release!

Review vol. 30(1)

The spread of pathogens through international trade
***Scientific and Technical Review*, Vol. 30 (1)**

This *Review* brings together an important collection of well-researched papers by internationally-recognised experts which aim to document the real, rather than hypothetical, risks from international trade in animals and animal products and compares these with the risks from some of the other means by which pathogens are disseminated. The measures available to mitigate risks are also examined.

ORDER ONLINE NOW!

WWW.OIE.INT/BOUTIQUE

*To benefit from the discount, type the code **VET250** under Conference Code and click on "Take into account"

Global Conference on Rabies Control

Seoul (Republic of Korea)
7-9 September 2011

www.oie.int

12, rue de prony • 75017 paris france • tel. 33 (0)1 44 15 18 88 • fax 33 (0)1 42 67 09 87 • www.oie.int • oie@oie.int