WORLD ORGANISATION FOR ANIMAL HEALTH
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bulletin

The OIE launches laboratory networks for African swine fever, peste des petits ruminants and rabies

The OIE currently has Reference Laboratory networks for foot and mouth disease (FMD), animal influenza, and non-tsetse transmitted animal trypanosomoses, each operating according to the Guidance for the Management of OIE Reference Laboratory Networks. The aim for the OIE in establishing laboratory networks for animal diseases is to expand access to expertise beyond the OIE Reference Laboratories themselves by involving national laboratories, research institutions and universities so that the network could contribute to global initiatives for the prevention and control of animal diseases worldwide.

The OIE, with the support of the Biological Standards Commission (BSC), identified the need to strenghthen the laboratory capacity of Members to fight three priority diseases the control of which are under Global Programmes, namely African swine fever (ASF), peste des petits ruminants (PPR) and rabies. The BSC invited experts among the OIE Reference Laboratories to lead the networks[1]. The leaders were asked to draft the goals and objectives for each network in agreement with the remaining Reference Laboratories for each disease and to include them in the network initiatives.

At the September 2020 meeting of the BSC, the leaders of the three networks joined the Commission meeting to present the final network concept documents summarising the goals, objectives, planned activities, criteria for membership and proposed laboratories for each network. The BSC recognised that these networks have a key role to play in the existing global strategies for these animal diseases and approved the three networks to launch their planned activities.

Dr Emmanuel Couacy-Hymann, President of the BSC commented, *"The project to create OIE Reference Laboratory Networks for ASF, PPR and rabies was initiated by the BSC and is now ready to be implemented thanks to the respective Reference Laboratories agreeing to participate. The diseases were chosen because there is a clear worldwide commitment to controlling ASF, to eradicating PPR and to ending human deaths from dog-mediated rabies by 2030; these parameters will contribute to keeping these networks alive. These Laboratory Networks will serve as an effective tool to attract laboratories and improve capacities, including in universities, Research Centres, etc., involved in the diagnosis and research on these topics for the benefit of OIE Members."*

[1] Onderstepoort Veterinary Institute (South Africa) for ASF, Centre de coopération internationale en recherche agronomique pour le développement (France) for PPR, and Friedrich-Loeffler-Institut (Germany) and Centers for Disease Control and Prevention (USA) for rabies.

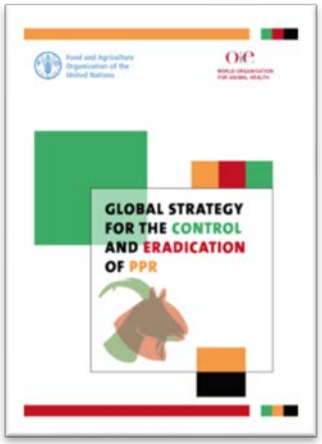
The African swine fever (ASF) network

The key objectives of the ASF network include:

- to harmonise, standardise and validate ASF diagnostic assays;
- to facilitate the exchange of reference material for ASF diagnostic assays;
- to contribute to the worldwide databank on ASFV genomic data;
- to provide expertise and training in relation to ASF diagnosis, surveillance and control;
- to support national laboratories in relation to ASFV diagnostics;
- to collect, analyse and disseminate epidemiological data on ASF global occurrence and spread, and ASF genetic characterisation.

"The world has experienced an unprecedented increase in the occurrence of African swine fever over the past decade. Early and reliable diagnosis of infected animals remains central to implementation of effective control measures, with regional and national diagnostic laboratories playing a crucial role in this regard. The OIE ASF Reference Laboratory Network will foster closer collaboration with different laboratories that are actively involved in efforts to control the disease. We are confident that the network will contribute significantly to global efforts to halt the spread of ASF and to eradicate it from domestic pigs", said Dr Livio Heath, Coordinator of the ASF network from Onderstepoort Veterinary Institute (OVI), South Africa.

The peste des petits ruminants (PPR) network



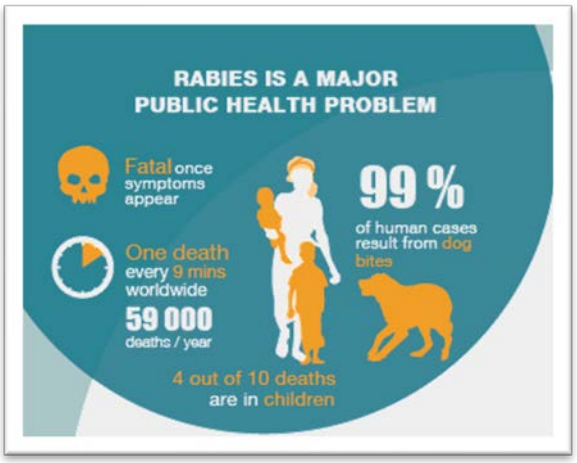
The key objectives of the PPR network include:

- to ensure the availability of high-quality laboratory tests and their use, and maintain high-quality performance by all laboratories;
- to provide scientific and technical expertise on issues related to early preparedness and effective response;
- to maintain reagents, reference materials, sample and data collections and promote material sharing to support validation of diagnostic methods and sequencing efforts;
- to promote the adoption and production of high-quality vaccines and the development and application of more efficient and locally adapted vaccination strategies.

Dr Arnaud Bataille from the Centre de coopération internationale en recherche agronomique pour le développement (CIRAD) in France and Coordinator of the PPR network, remarked,

"The use of validated diagnostic methods and of high-quality vaccines is key to the successful control and eradication of PPR. National and regional diagnostic laboratories need to continually update and maintain their capacity to detect PPRV and to support vaccination and surveillance programmes. The OIE PPR Reference Laboratory Network will build strong partnerships between reference laboratories and diagnostic laboratories throughout the world, with one single platform where information about protocols, data, material and training activities will be shared. An efficient network will help improve surveillance and epidemiological studies and make available accurate and timely data on PPR prevalence and distribution."

The rabies network



The key objectives of the rabies network include:

- to share and offer technical assistance, training and veterinary expertise at a specific country-level to assist and contribute to cross-regional outreach in diagnosis, surveillance and control of animal rabies;
- to standardise and harmonise rabies laboratory techniques according to the OIE *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals*;
- to improve access to proficiency testing schemes consistent with OIE recommendations;
- to exchange biological materials (including virus strains);
- to analyse scientific data of diagnostic relevance and share such information with the international rabies community;
- to highlight adequate laboratory-supported rabies surveillance, reporting and dissemination of data consistent with OIE *Terrestrial Animal Health Code* recommendations;
- to identify research needs and promote their development;
- to promote the implementation of the Global Strategic Plan to end human deaths from dog-mediated rabies by 2030 by supporting pillar '2' related activities.

Dr Ryan M. Wallace, from Centers for Disease Control and Prevention (CDC), USA, and Dr Thomas Müller, Friedrich-Loeffler-Institut (Germany), Coordinator of the RABLAB network jointly stated,

"It is a tragedy that rabies, the oldest zoonosis known to mankind, remains a scourge to the present day still posing a constant danger to human health, particularly in Africa and Asia. The lack of diagnostic capacity is one crucial barrier preventing an effective response to the challenges of global rabies elimination. Supporting the United Against Rabies Forum lead by the Tripartite (OIE/WHO/FAO) in their global fight against rabies by ending dog-mediated human rabies deaths by 2030, the OIE Rabies Reference Laboratory Network (RABLAB) will be a key technical resource and information platform in strengthening high-quality laboratory capacity and improving laboratory-based rabies surveillance in countries around the world. Under OIE coordination and support, the Network will expand to comprise 12 OIE Reference Laboratories for Rabies and other Centres of Excellence."

The global network of OIE Reference Centres is the central core of the OIE's scientific excellence. The Terms of Reference require Reference Laboratories to establish and maintain a network among other Reference Laboratories designated for the same pathogen.

Dr Matthew Stone, OIE Deputy Director General (International Standards and Science), made the following remarks on this initiative,

"The newly established networks will provide quality assurance across laboratories through the adherence to OIE Standards, the sharing of reference materials within the network and the participation in appropriate proficiency testing. Networking also provides opportunities to foster innovation through exchange of knowledge and experience, mutual support and development of scientific collaborations. It will improve the credibility and increase the visibility of OIE Reference Laboratories worldwide, and will attract the participation of other national reference laboratories from OIE Members to support their needs and develop their capacities. The OIE Reference Laboratory Networks are intended to accelerate progress towards global strategic eradication and control programmes through scientific collaboration."

■ November - 2020