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To the readers

VETLAB Network

Current membership: 44 countries in Africa and 19 in Asia (June, 2017)

Transboundary animal and zoonotic diseases continue to pose serious threats to animal and human health, in particular, the recent transcontinental spread of avian influenza (AI) H5N8, genetic drift of AI in China during the 5th wave of the H7N9 epidemic and the spread of Pest des Petits Ruminants virus and Lumpy Skin Disease virus to new areas of the globe. Veterinary laboratories are an essential component in the prevention and control of infectious diseases and face the challenge of detecting pathogens as early as possible with the highest possible accuracy.

The transfer of novel technologies through support missions and trainings, the harmonization of laboratory testing procedures through inter-laboratory trials, the supply of standards and reagents to network laboratories are just some of the activities undertaken and promoted by the VETLAB network. Importantly, the global dimension of the VETLAB network facilitates the assistance of national and regional networks in several areas of the world, with the overall aim of synergizing and supporting collaborations between laboratories and increasing their capacities.

Looking forward to meeting you all in forthcoming VETLAB events!

VETLAB Highlights

Highly pathogenic avian influenza (HPAI) H5N8 in Uganda

In January 2017, the HPAI H5N8 virus was reported for the first time in East Africa, along the shores of Lake Victoria in Uganda where mortality was observed in wild birds, domestic ducks and rural chickens. There is no evidence to date of human infections caused by this virus. The National Disease Diagnostics and Epidemiology Centre (NADDEC) in Entebbe is actively involved in HPAI testing of field samples.

H7N9 Asian lineage mutated to highly pathogenic AI virus for poultry

The zoonotic H7N9 avian influenza emerged in China in 2013 as a low pathogenic virus for poultry. Since then, China has experienced five epidemic waves in the human population responsible for 1552 confirmed cases and 596 deaths (June 2017). In February 2017, the occurrence of genetic mutations (genetic drift) in the virus that make it highly pathogenic for poultry was reported. The newly emerged virus maintains dual preference for avian- and human-like receptors.

Interlaboratory trial for Peste des Petit Ruminants virus (PPRV) in 2016

Twenty-seven laboratories representing 24 countries in 3 continents participated in the interlaboratory trial (PPT) exercise in 2016. Sixty-four percent of the laboratories scored 100% for both serological and molecular detection panels. Those that scored 100% for one or all of the panels received a certificate from the Joint FAO/IAEA Division. Additionally, a general country report has been provided addressing different ways to improve PPR diagnosis.

Strengthened Transboundary Animal Disease Control (Livingstone, Zambia; 27 -31 March 2017)

A Coordination Meeting of the AFRA Project RAF5068 brought veterinarians from 17 MMember States together to discuss vector monitoring; Geographic Information System (GIS) based documentation and vector-borne disease diagnostics to support better diagnostics for hemoparasitic diseases. A regional cooperation in poultry vaccine production was requested. The final coordination meeting is foreseen for the end of 2018.



VETLAB Capacity Building Initiatives

follow up and troubleshoot the implementation of the multiplex testing and the molecular and serological techniques applied for the detection and characterization of the pathogens in small ruminants and swine.

as GenBank. The service was developed in order to allow counterpart laboratories direct access to sequencing services, as well as contributing to a better understanding of the molecular epidemiology of animal and zoonotic diseases at national, regional and global level.

Support mission to Mongolia

A molecular multiplex diagnostic method transferred from the Animal Production and Health Section (APH) to the State Central Veterinary Laboratory enabled the rapid detection of the recent PPRV outbreaks among livestock and wild life populations in the country. An APH expert mission was carried out in May 2017 to

Regional Training Course on the use of Sequencing Services

Thirty five participants from African veterinary and medical laboratories were trained in Morocco on the use of a free-of-charge sequencing services. The course included sample preparation, submission, sequence assembly, sequence alignment, development of phylogenetic trees of animal and zoonotic pathogens, as well as data sharing on recognized genetic databases, such

Training in Seibersdorf

One visiting fellow from the Central Veterinary Laboratory in Harare and one from Botswana National Veterinary Laboratory in Gaborone are currently being trained at the APHL, Seibersdorf, for one month and three months, respectively. The training focuses on rapid laboratory testing for the detection and characterization of pathogens responsible for transboundary animal diseases.

VETLAB Networking Activities

The National Veterinary Laboratory (LANAVET), Yaounde, Cameroon

- It is a public enterprise under the main LANAVET in Garoua. It is technically under the Ministry of Livestock, Fisheries and Animal Industries (MINEPIA).
- The mandate of the laboratory is the diagnosis of animal diseases, the study and surveillance of epizootics, research, quality control of food and food products, and training.
- The laboratory applies serological, molecular and nuclear-related techniques (real-time PCR, conventional PCR, ELISA, LAMP), viral and bacterial isolation and identification, parasite and vector detection and control. It conducts quality control and assurance procedures and it is involved in research and training (e.g. national and international courses, short and long-term fellowships, final year and postgraduate student research supervision).
- The laboratory was created in June 2013. It is principally equipped by IAEA and has strong collaborations with FAO/IAEA, FLI-Germany, DETRA-USA, AU-IBAR, Pasteur Institute in Bangui (Central African Republic), University of Yaounde 1, Predict-Metabiota, Veterinary, Medical and other high schools in Cameroon.
- LANAVET is the only veterinary laboratory in Cameroon and its annex in Yaounde takes care of disease situations in 7 out of 10 regions in the country. The lab is specialized in rapid detection and field diagnosis as it is equipped with a mobile laboratory team. It has a P3-like section for handling high risk bio-hazards. The 2016 HPAI outbreaks in Cameroon was rapidly detected and confirmed by this young laboratory. Several papers are being co-authored with both national and international partners. Inter-laboratory proficiency tests consistently score 100%.
- The laboratory is aiming to efficiently improve, emerge and contain new emerging pathogens; to improve capacities on ASFV isolation and production of ASFV reagents; to conduct researches on Rift Valley Fever, Monkeypox, Henipah viruses and other emerging zoonoses; and to organize more national and international training courses on biosecurity and biosafety as well as diagnostic techniques in disease surveillance.



Participants of a laboratory training course at Seibersdorf for members of the VETLAB Network

Forthcoming events

2nd VETLAB Research Coordination Meeting

The meeting will be held from 7-11 August 2017 to discuss the current progress of the project.

VETLAB Directors Meeting

The 2nd joint technical meeting of the VETLAB network, with directors of veterinary laboratories in Africa and Asia that are supported by the African Renaissance Fund and the Peaceful Uses Initiative to Strengthen Animal Disease Diagnostic Capacities will take place from 8th to 11th August 2017 in Vienna, Austria.

Two Training Courses on Transboundary Animal Diseases Diagnoses: Early Detection and Characterization

The first course will take place from 25th Sep. to 6th Oct. 2017 at Seibersdorf Laboratories to strengthen veterinary diagnostic and research laboratories capacities for differential diagnosis of infectious animal diseases.

The second course will run from 23rd October to 3rd November 2017 at the National Veterinary Institute (Debre Zeit) in Ethiopia to reinforce knowledge in surveillance and epidemiology on major viral and bacterial pathogens affecting poultry and ruminants.

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