

Joint FAO/IAEA Programme in Food and Agriculture

Animal Production and Health Section



Contribution to the CBPP Regional Strategy

Joint FAO/IAEA Centre
Nuclear Techniques in Food and Agriculture

Animal Production and Health Section (APH)

- Assist MS to improve livestock productivity through:
 1. Efficient use of locally available feed resources (Nutrition)
 2. Breed characterisation and improvement (Genetics and breeding)
 3. Appropriate breeding technologies/programmes (Reproduction)
 4. Development of proactive disease detection, surveillance and control measures (Health)
- by promoting nuclear and nuclear derived technologies.

Modalities of Cooperation

1. Coordinated Research Projects

2. Technical Cooperation Projects

- Fellowship trainings
- Scientific visits
- Expert missions
- Training courses (national and regional)
- Equipment



Animal Production and Health Laboratory (APHL)

- Equipped with an array of nuclear and derived technology platforms
- Experts in the application of technologies in Animal Production & Health
- Critical mass of skills to disseminate these technologies and build capacity in MS



Animal Production and Health Laboratory (APHL)



The Animal Production and Health Laboratory is a WOAHA Collaborating Centre for ELISA and Molecular Techniques in Animal Disease Diagnosis

- We maintain good collaboration with several WOAHA and FAO collaborating centres and Reference laboratories
- Trainers for all VETLAB training courses on disease diagnosis are mostly from WOAHA and FAO collaborating centres and WOAHA reference laboratories
- We support laboratories in implementing validated protocols to facilitate disease reporting to WOAHA





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APH SUPPORT TO CBPP CONTROL

Joint FAO-IAEA Centre
International Atomic Energy Agency, Vienna, Austria

Supporting Countries in Controlling CBPP: A Look Back at Past Activities

Networking, data sharing and services

- Participated in FAO/OIE/OAU/ IAEA Consultative Group on Contagious Bovine Pleuropneumonia CBPP
- Promoted Awareness at VETLAB Directors' Annual Meetings through presentation and experience exchange with BNVL the WOAHI reference laboratory for CBPP

Supporting Countries in Controlling CBPP: A Look Back at Past Activities

Capacity building and technology transfer

- TCP: CAF5009 Controlling Contagious Bovine Pleuropneumonia and Peste des Petit Ruminants, Central African Republic
- TCP: SEN5036 Controlling Mycoplasma Mycoides Infection – Contagious Bovine Pleuropneumonia (CBPP) and Contagious Caprine Pleuropneumonia (CCPP), Senegal
- TCP: BOT/5/005 Improving Diagnosis of Animal Diseases (FMD, CBPP, AI)
- TCP: ETH/5/014 Monitoring and Control of Major Animal Diseases (FMD, CBPP, PPR)
- TCP: KEN/5/028 Applying Nuclear Based Techniques to Control Animal diseases (CBPP, RVF, AI)
- TCP: MAU/5/003 Improving the National Capacity in Diagnostics for Animal Diseases (Infection and Parasitic Diseases) –FMD, CBPP
- TCP: RAF/5/057 Strengthening Capacities for the Diagnosis and Control of Transboundary Animal Diseases in Africa (AFRA)-PPR, CBPP

Supporting Countries in Controlling CBPP: A Look Back at Past Activities

Capacity building and technology transfer

- Supported Diagnosis and Surveillance in Botswana, Cameroon, Zambia, Senegal, Mali
- Training course for the early and rapid diagnoses and control of foot-and-mouth disease and contagious bovine pleuropneumonia, held at the Botswana National Veterinary Laboratory in November 2017 in Gaborone, Botswana (BOT5015)
- Training on Sequencing and Molecular Epidemiology of Animal Pathogens- Focus on PPR, CBPP, AND CAPRIPOX-2012
- Support to Sequencing Service



Supporting Countries in Controlling CBPP: A Look Back at Past Activities

Research and Innovation (nuclear, nuclear-related, and molecular techniques)

- CRP D32024: Control of Contagious Bovine Pleuro Pneumonia (2006-2013)
 - Evaluation of serological tests for CBPP
 - Evaluation of the immune response towards infection
 - Molecular diagnostics
 - Molecular epidemiology of CBPP

Countries: Kenya, Namibia, Zambia, Austria, Switzerland, Botswana, Cameroon, Mali



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– the VETLAB Network –

- The Veterinary Diagnostic Laboratory (VETLAB) Network is a global network of national veterinary laboratories
- Coordinated by the Animal Production and Health Section (APH) of the Joint FAO/IAEA Centre of Nuclear Techniques in Food and Agriculture
- The network currently comprises 72 laboratories in 46 African and 19 Asian countries and is now working to expand to Central and Eastern Europe, the Caribbean and Central and South America.
- The VETLAB laboratories and the Joint FAO/IAEA Centre's Animal Production and Health Laboratory work with each other, including experts from the Joint FAO/IAEA Centre, to use nuclear, nuclear-derived and other methods for monitoring, early detection, diagnosis and control of transboundary animal and zoonotic diseases.



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Importance of Veterinary Laboratory Networking

Sharing of
expertise,
data,
information
and materials

Improving
access to
capacity
building and
R&D activities

Optimizing
use of
technical,
financial and
human
resources

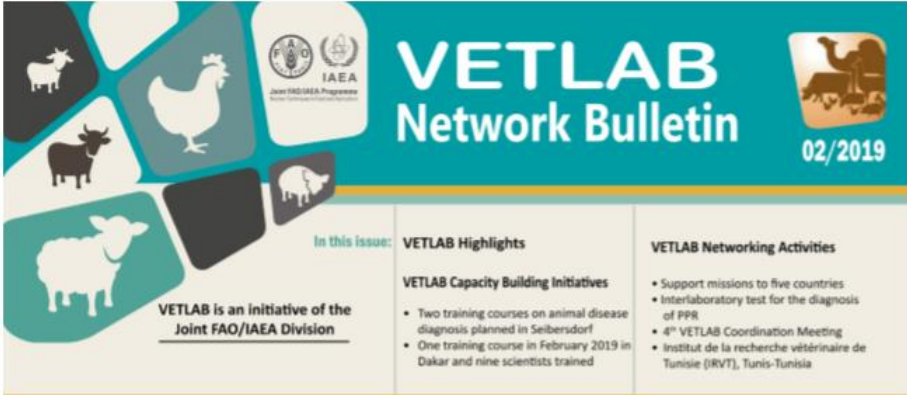
Synergizing
efforts for the
control of
TADs and
zoonoses

Capacity building: Information, Knowledge and Experience Exchange

VETLAB Directors meetings



virtual meeting (2021)
Fifth joint coordination meeting



Countries' contribution to the VETLAB Bulletin

Third joint coordination meeting for Africa and Asia (August 2018)



Fourth joint coordination meeting for Africa and Asia (August 2019)



Sixth joint coordination meeting for Africa and Asia (August 2022)

Seventh joint coordination meeting for Africa and Asia (August 2023)



Increasing Awareness during VETLAB Director's Annual Meetings

- August 2019: Session on PPR global eradication program for VETLAB partner laboratories preparedness
- November 2021. A session dedicated to APH R&D and initiatives to support animal and zoonotic diseases surveillance and control.
- August 2022. a session dedicated to VETLAB partners' achievements and challenges in Transboundary animal diseases diagnosis and surveillance.
- August 2023. Presentation and discussion of Annual PPR PT results

APH Future Priorities: Supporting Regional Strategy for CBPP Control

Research and Innovation (nuclear, nuclear-related, and molecular techniques)

- R&D to Improve CBPP vaccine efficacy;
- Conduct research to enhance CBPP vaccine quality.
- Evaluate AU-PANVAC's ELISA test for CBPP surveillance
- R&D to develop and validate syndromic testing tools
- Support studies on the molecular characterization of CBPP

APH Future Priorities: Supporting Regional Strategy for CBPP Control

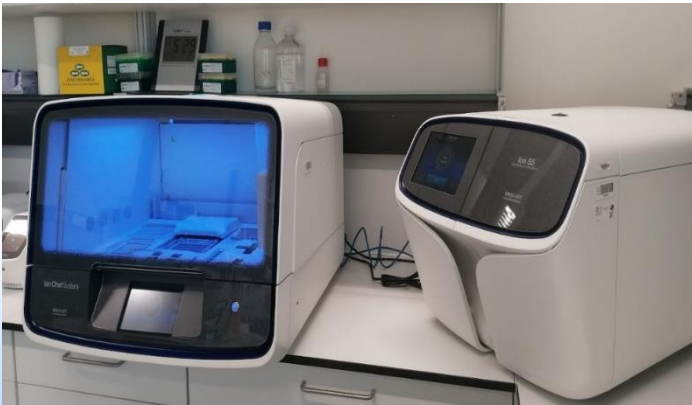
Capacity building and technology transfer

- Enhance veterinary labs for CBPP surveillance with advanced techniques (equipment, reagents and training).
- Strengthen regional diagnostic test production for CBPP monitoring.
- Support efficient CBPP vaccine development, production and quality controls.
- Supports monitoring vaccination campaigns and implementing disease surveillance tools

APH Future Priorities: Supporting Regional Strategy for CBPP Control

Networking, data sharing and services

- Utilize VETLAB-NETWORK platform to support CBPP control
- Support ISO 17025 standards for reliable, compliant lab results (i.e. support PTs through BNVL, the VETLAB partner and WOAHA reference laboratory for CBPP.)
- Service (ring trials, shipment, calibration)
- Support to WGS, including outsourcing



Ion S5



Minion Nanopore



PacBio (Sequel II instrument)

FAO/IAEA Agriculture and Biotechnology Laboratory



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**Animal Production and Health
Sub-programme**

Thank You

