

OIE Reference Laboratory Reports Activities

Activities in 2021

This report has been submitted : 2022-01-08 11:24:12

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Contagious bovine pleuropneumonia
Address of laboratory:	c/o Istituto Zooprofilattico Sperimentale Via Campo Boario 64100 Teramo ITALY
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Name (including Title) of Head of Laboratory (Responsible Official):	Dr Nicola D'Alterio - Director General
Name (including Title and Position) of OIE Reference Expert:	Massimo Scacchia, DVM, Veterinary Officer
Which of the following defines your laboratory? Check all that apply:	Governmental

ToR 1: To use, promote and disseminate diagnostic methods validated according to OIE Standards

1. Did your laboratory perform diagnostic tests for the specified disease/topic for purposes such as disease diagnosis, screening of animals for export, surveillance, etc.? (Not for quality control, proficiency testing or staff training)

Yes

Diagnostic Test	Indicated in OIE Manual (Yes/No)	Total number of test performed last year	
		Nationally	Internationally
Indirect diagnostic tests		Nationally	Internationally
CFT	Yes	47	0
Direct diagnostic tests		Nationally	Internationally
NGS	No	0	8

**ToR 2: To develop reference material in accordance with OIE requirements, and implement and promote the application of OIE Standards.
To store and distribute to national laboratories biological reference products and any other reagents used in the diagnosis and control of the designated pathogens or disease.**

2. Did your laboratory produce or supply imported standard reference reagents officially recognised by the OIE?

Yes

NOTE: Currently, there are 22 laboratories that produce Standard Reference Reagents officially recognised by the OIE for 19 diseases/pathogens. Please click the following link to the list of OIE-approved International Standard Sera: <http://www.oie.int/en/our-scientific-expertise/veterinary-products/reference-reagents/>. If the reagent is not listed on this page, it is NOT considered OIE-approved. The next two questions allow you to indicate non-OIE-approved diagnostic reagents.

Disease	Test	Available from
Contagious bovine pleuropneumonia	Both irradiated and non-irradiated sera are available. Please contact the Reference Laboratory (Dr Pini) for advice on their suitability for different types of serological test (complement fixation test, indirect or competitive enzyme-linked immunosorbent assay)	Dr Massimo Scacchia CESME, Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise 'G. Caporale', Via Campo Boario, 64100 Teramo, Italy Tel: (39-0861) 33.24.05 Fax: (39-0861) 33.22.51 m.scacchia@izs.it

Type of reagent available	Related diagnostic test	Produced/ Supply imported	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	Name of recipient OIE Member Countries
Positive serum	CFT	Produced	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	ITALY

3. Did your laboratory supply standard reference reagents (non OIE-approved) and/or other diagnostic reagents to OIE Member Countries?

Yes

Type of reagent available	Related diagnostic test	Produced/ provide	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	No. of recipient OIE Member Countries	Region of recipients
Antigen	CFT	Produced	10 ml	80 ml	1	<input checked="" type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to OIE Member Countries?

No

ToR 3: To develop, standardise and validate, according to OIE Standards, new procedures for diagnosis and control of the designated pathogens or diseases

6. Did your laboratory develop new diagnostic methods validated according to OIE Standards for the designated pathogen or disease?

No

7. Did your laboratory develop new vaccines according to OIE Standards for the designated pathogen or disease?

No

ToR 4: To provide diagnostic testing facilities, and, where appropriate, scientific and technical advice on disease control measures to OIE Member Countries

8. Did your laboratory carry out diagnostic testing for other OIE Member Countries?

No

9. Did your laboratory provide expert advice in technical consultancies on the request of an OIE Member Country?

Yes

Name of the OIE Member Country receiving a technical consultancy	Purpose	How the advice was provided
BOTSWANA	Production of SADC Region Positive Reference Serum	ERFAN - Enhancing Research for Africa Network; Economic support for serum production
BOTSWANA	Networking on CBPP, with others OIE Reference Laboratories and African Veterinary Institutions in order to; Improve diagnostic activities, carry out technical training and stimulate scientific research	ERFAN - Enhancing Research for Africa Network; CBPP Working Group online meetings
ZAMBIA	Networking on CBPP, with others OIE Reference Laboratories and African Veterinary Institutions in order to; Improve diagnostic activities, carry out technical training and stimulate scientific research	ERFAN - Enhancing Research for Africa Network; CBPP Working Group online meetings
NAMIBIA	Networking on CBPP, with others OIE Reference Laboratories and African Veterinary Institutions in order to; Improve diagnostic activities, carry out technical training and stimulate scientific research	ERFAN - Enhancing Research for Africa Network; CBPP Working Group online meetings
TANZANIA	Networking on CBPP, with others OIE Reference Laboratories and African Veterinary Institutions in order to; Improve diagnostic activities, carry out technical training and stimulate scientific research	ERFAN - Enhancing Research for Africa Network; CBPP Working Group online meetings
SENEGAL	Networking on CBPP, with others OIE Reference Laboratories and African Veterinary Institutions in order to; Improve diagnostic activities, carry out technical training and stimulate scientific research	ERFAN - Enhancing Research for Africa Network; CBPP Working Group online meetings
MAURITANIA	Networking on CBPP, with others OIE Reference Laboratories and African Veterinary Institutions in order to; Improve diagnostic activities, carry out technical training and stimulate scientific research	ERFAN - Enhancing Research for Africa Network; CBPP Working Group online meetings
ETHIOPIA	Networking on CBPP, with others OIE Reference Laboratories and African Veterinary Institutions in order to; Improve diagnostic activities, carry out technical training and stimulate scientific research	ERFAN - Enhancing Research for Africa Network; CBPP Working Group online meetings
SUDAN	Networking on CBPP, with others OIE Reference Laboratories and African Veterinary Institutions in order to; Improve diagnostic activities, carry out technical training and stimulate scientific research	ERFAN - Enhancing Research for Africa Network; CBPP Working Group online meetings
NIGERIA	WGS sequencing of 8 Nigerian strains of Mmm	WGS sequencing of 8 strains of Mycoplasma mycoides mycoides and the related phylogenetic tree analysis

ToR 5: To carry out and/or coordinate scientific and technical studies in collaboration with other laboratories, centres or organisations

10. Did your laboratory participate in international scientific studies in collaboration with OIE Member Countries other than the own?

Yes

Title of the study	Duration	Purpose of the study	Partners (Institutions)	OIE Member Countries involved other than your country
Pathogenic studies of Mmm. PhD Research study	3 years	Study of interaction between Mmm and host cells using OMIC approach	BNVL Gaborone, Veterinary School -Teramo University, Italy	BOTSWANA
WGS sequencing of strains of Mycoplasma mycoides mycoides	3 month	Epidemiological study of 8 Nigerian strains of Mmm and the related phylogenetic tree analysis	Faculty of Veterinary Medicine University Zaria, Kaduna state	NIGERIA

ToR 6: To collect, process, analyse, publish and disseminate epizootiological data relevant to the designated pathogens or diseases

11. Did your Laboratory collect epizootiological data relevant to international disease control?

Yes

If the answer is yes, please provide details of the data collected:
The OIE Reference Laboratory for CBPP in Teramo has always supported OIE member countries with epidemiological studies, analysing data on the prevalence and incidence of CBPP in their countries. No such epidemiological support was requested in 2021.

12. Did your laboratory disseminate epizootiological data that had been processed and analysed?

Yes

If the answer is yes, please provide details of the data collected:
In agreement with member countries that have provided data on CBPP in their countries. Normally this activity gives the opportunity to write publications together with African colleagues. No such epidemiological support was requested in 2021.

13. What method of dissemination of information is most often used by your laboratory?

(Indicate in the appropriate box the number by category)

a) Articles published in peer-reviewed journals: 0

But Dr Di Teodoro and his co-authors on being selected for the 2021 Davis-Thompson Foundation's Journal award for "Contagious Bovine Pleuropneumonia: A Comprehensive Review" Vet Path 2020, Vol 57(4) pp 476-489. This award is given to the article judged best in content, significance and presentation in the previous year's issue of Veterinary Pathology.

b) International conferences: 1

XXIII International Organisation for Mycoplasmatology; As Speaker Dr Leruo Keokilwe, PhD student

c) National conferences: 0

d) Other:

(Provide website address or link to appropriate information) 0

ToR 7: To provide scientific and technical training for personnel from OIE Member Countries**To recommend the prescribed and alternative tests or vaccines as OIE Standards**

14. Did your laboratory provide scientific and technical training to laboratory personnel from other OIE Member Countries?

Yes

a) Technical visits: 0

b) Seminars: 7

c) Hands-on training courses: 0

d) Internships (>1 month): 1

Type of technical training provided (a, b, c or d)	Country of origin of the expert(s) provided with training	No. participants from the corresponding country
d	Botswana	1
b	Botswana, Zambia, Namibia, Angola, Tanzania, Senegal, Ethiopia, Sudan and Mauritania	57
b	Ethiopia	12

ToR 8: To maintain a system of quality assurance, biosafety and biosecurity relevant for the pathogen and the disease concerned

15. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)
ISO 17025	Certificate Accredia ISO17025_202001.pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
CFT	ILAC-ACCREDIA
PCR-RFLP	ILAC-ACCREDIA

17. Does your laboratory maintain a "biorisk management system" for the pathogen and the disease concerned?

Yes

(See *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals, Chapter 1.1.4*)

ToR 9: To organise and participate in scientific meetings on behalf of the OIE

18. Did your laboratory organise scientific meetings on behalf of the OIE?

Yes

National/ International	Title of event	Co-organiser	Date (mm/yy)	Location	No. Participants
International	ERFAN nr 33 Working Group meetings	34 ERFAN partners	2-12/2021	Online	150
International	ERFAN Round table	34 ERFAN partners	7/2021	Online	71
International	ERFAN First General Meeting- First and Second Day	34 ERFAN partners	10/2021	Rome and Online	62
International	ERFAN Information Day on: "Overview on the Contagious bovine pleuropneumonia"	OIE RL for CBPP Gaborone-Botswana	2-3/2021	Online	57
International	OIE Twinning project on CBPP - NAHDIC Ethiopia "Presentation of the NAHDIC laboratory facilities"	NAHDIC Ethiopia	10-11/2021	Online	12

19. Did your laboratory participate in scientific meetings on behalf of the OIE?

No

ToR 10: To establish and maintain a network with other OIE Reference Laboratories designated for the same pathogen or disease and organise regular inter-laboratory proficiency testing to ensure comparability of results

20. Did your laboratory exchange information with other OIE Reference Laboratories designated for the same pathogen or disease?

Yes

21. Was your laboratory involved in maintaining a network with OIE Reference Laboratories designated for the same pathogen or disease by organising or participating in proficiency tests?

Yes

Purpose of the proficiency tests: ¹	Role of your Reference Laboratory (organiser/participant)	No. participants	Participating OIE Ref. Labs/organising OIE Ref. Lab.
CBPP c-ELISA	Participant	Unknown	Organiser CIRAD-France

¹ validation of a diagnostic protocol: specify the test; quality control of vaccines: specify the vaccine type, etc.

22. Did your laboratory collaborate with other OIE Reference Laboratories for the same disease on scientific research projects for the diagnosis or control of the pathogen of interest?

Yes

Title of the project or contract	Scope	Name(s) of relevant OIE Reference Laboratories
OIE ERFAN Project - Enhancing Research for Africa Network SADC Region CBPP Working group	Strengthening research in African countries through the support of OIE Reference Laboratories/Collaboration Centres	Botswana National Veterinary Laboratory, IZS Palermo, Italy (Contagious Agalactiae OIE Reference Laboratory)
OIE ERFAN Project - Enhancing Research for Africa Network North West Africa Small Ruminants Mycoplasmosis Working group	Strengthening research in African countries through the support of OIE Reference Laboratories/Collaboration Centres	IZS Palermo, Italy (Contagious Agalactiae OIE Reference Laboratory)

ToR 11: To organise inter-laboratory proficiency testing with laboratories other than OIE Reference Laboratories for the same pathogens and diseases to ensure equivalence of results

23. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than OIE Reference Laboratories for the same disease?

No

Note: See Interlaboratory test comparisons in: Laboratory Proficiency Testing at: <http://www.oie.int/en/our-scientific-expertise/reference-laboratories/proficiency-testing> see point 1.3

ToR 12: To place expert consultants at the disposal of the OIE

24. Did your laboratory place expert consultants at the disposal of the OIE?

Yes

Kind of consultancy	Location	Subject (facultative)
OIE CBPP ad hoc group meetings participation	OIE Headquarter	Evaluation of CBPP status of OIE Members

25. Additional comments regarding your report:

OIE Twinning Project on CBPP - Strengthening the capacity of Contagious Bovine Pleuro-Pneumonia (CBPP) diagnosis including development of reagents for serological tests and enhance disease surveillance in Ethiopia and East Africa.

Laboratories involved: Parental Laboratory, OIE CBPP Reference Laboratory at Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise, Teramo, Italy (IZSAM); Candidate Laboratory, National Animal Health Diagnostic and Investigation Centre, Sebeta, Ethiopia (NAHDIC).

Meeting online

Considering the continuation of the COVID-19 pandemic, in order to not decrease the IZSAM support to NAHDIC staff, online meetings have been planned.

Online meetings of up to one and a half hours have been organised following the below list, starting from February 2021 with the aim of presenting the NAHDIC laboratory facilities to the colleagues from the OIE Reference Laboratory in Teramo.

Meetings organized:

Day 1: Monday 19 April 2021: Presentation: Bacteriology Laboratory (Biniam Tadesse, Bacterial Serology); Presentation: Bacterial Serology Laboratory (Getachew Tuli, Head of Bacterial Serology Laboratory).

Day 2: Thursday 29 April 2021: Presentation: Viral Serology Laboratory (Demeke Zewde, Head of Viral Serology Laboratory); Presentation: Molecular Biology Laboratory (Redeat Alemu, Head of Molecular Biology Laboratory).

Day 3: Thursday 6 of May 2021: Presentation: Cell Culture Laboratory (Dereje Shegu, Head of Cell Culture Laboratory); Presentation: Major Research Activities at NAHDIC.

Consideration

The Candidate Laboratory showed a high interest in participating in this new approach, which took into account online meetings while waiting to restart training activities in physical presence.

The Candidate Laboratory also, following the indications of the Parental Laboratory, started to collect biological material that will be partly processed at the OIE Reference Laboratory in Teramo during their future training

periods.

Next step

Starting training periods in presence in 2022.

Enhancing Research for Africa Network -ERFAN

The project "Enhancing Research for Africa Network -ERFAN" is supported by OIE, funded by the Italian government in April 2019 and involves 18 countries, 34 Veterinary Institutions, 28 African and 6 Italian. 16 working groups are actives.

It is based on the positive experience and high scientific value of the Twinning Projects funded by the World Organisation for Animal Health (OIE) and carried out by IZSAM in collaboration with several African countries in the fields of Vector-borne diseases, Food hygiene, CBPP, Animal welfare and Brucellosis. The OIE twinning tool has created a link between IZSAM and the National Veterinary Laboratories involved, facilitating the exchange of knowledge, ideas and experience and improving their diagnostic capabilities.

Thanks to the OIE Twinning Projects, technical staff from African countries were able to carry out training periods considering also the quality system according to ISO 17025 and the Biosafety standards.

One of the main objectives of the project is to give continuity to these scientific activities, adding research activities, at regional level, in the specific fields of interest.

In 2021 ERFAN Information days on: Contagious Bovine Pleuro-Pneumonia: an Overview of the disease, have been organized. For a total of 10 hours and 45 minutes. The number of participants was 57.

In 2021 ERFAN carried out:

33 Working Group Meetings;

1 General Meeting with participation of OIE Director General Dr Monique Eloit, and one preparatory Round Table;

30 SOPs shared between partners;

3 Proficiency Tests carried out;

17 Online Vocational training, 5 Training Courses with a total number of 2213 participants;

5 Masters/PhD courses being funded (Zambia, Tanzania, 2 Ethiopia, South Africa).

PhD student

The IZSAM activated and financed, in collaboration with the Faculty of Veterinary Medicine in Teramo, a PhD for a veterinary from the National Veterinary Laboratory in Gaborone, Botswana. The research project for the PhD student was focused on the phylogenetic and bio-molecular epidemiology study to be carried out on Mmm strains isolated in the southern region of Africa.

Within the framework of the PhD, research activities continued on bovine lung explants for the study of certain aspects related to the pathogenesis of CBPP, in full compliance with and implementation of the 3Rs.

The candidate successfully defended his doctoral thesis in May 2021.

Others activities

Two experts at OIE CBPP Reference Laboratory, provided advice and technical support to the Italian Ministry of Health for the preparation and submission to the OIE of the Dossier for the recognition of Italy officially free of CBPP.