OIE Reference Laboratory Reports Activities

Activities in 2019

This report has been submitted : 2020-01-15 09:12:51

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Peste des petits ruminants
Address of laboratory:	CIRAD - Biological Systems Department AnimalS, health, Territories, Risks, Ecosystems (ASTRE) TA 117/E International Campus, Baillarguet 34398 Montpellier Cedex 5 FRANCE
Tel.:	+33 (0)4 67 59 37 98
Fax:	+33 (0)4 67 59 38 50
E-mail address:	genevieve.libeau@cirad.fr
Website:	http://www.cirad.fr/
Name (including Title) of Head of Laboratory (Responsible Official):	Dr Nathalie Vachiery
Name (including Title and Position) of OIE Reference Expert:	Dr Geneviève Libeau
Which of the following defines your laboratory? Check all that apply:	Other: EPIC, Industrial and Commercial Public Establishment

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	
Indirect diagnostic tests		Nationally	Internationally
C-ELISA	YES	22	34
Direct diagnostic tests		Nationally	Internationally
Real-time RT-PCR	YES	0	38
RT-PCR	YES	0	272
Partial sequencing	YES	0	74
Full genome sequencing	YES	0	4
Isolation	YES	0	10

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?

No

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
inactivated strains	Real-time RT-PCR	2ml	0	2	2	☐Africa ☐Americas ☒Asia and Pacific ☒Europe ☐Middle East
PPR positive goat serum	ELISA	2ml	0	2	2	☐Africa ☐Americas ☒Asia and Pacific ☒Europe ☐Middle East
live PPR strains	Real-time RT-PCR, VNT, isolation	6ml	0	6	1	☐Africa ☐Americas ☐Asia and Pacific ☒Europe ☐Middle East

4. Did your laboratory produce vaccines?

No

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

Yes

Vaccine name	Amount supplied nationally (ml, mg) (including for own use)	Amount supplied to other countries (ml, mg)	Name of recipient OIE Member Countries
Nigeria 75-1 PPR master seed	0	10 vials	NEPAL
Nigeria 75-1 PPR master seed	0	10 vials	IRAN

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?

Yes

Name of OIE Member Country seeking assistance	Date (month)	No. samples received for provision of diagnostic support	No. samples received for provision of confirmatory diagnoses
NIGER	02/2019	10	0
CHAD	02/2019	26	0
NIGERIA	02/19 to 07/19	360	0
BOTSWANA	08/19 and 10/19	0	20

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
MYANMAR	interpretation of ELISA results for OIE-free status submission	remote (email exchange), agreement to perform confirmatory tests
EGYPT	interpretation of ELISA results for OIE-free status submission	remote (email exchange)
LESOTHO	Steps needed for OIE-free status submission	remote (email exchange)
CHAD	Causes of death in oryx population	remote: diagnostic tests, interpretation and report
NIGER	Causes of death in girafe population	remote: diagnostic tests, interpretation and report
CONGO (DEM. REP. OF THE)	finding collaborations to perform phylogenetic tests on PPR positive samples	remote (email exchange), agreement to perform confirmatory tests
SAUDI ARABIA	Identify training needs for PPR and other TADs for diagnostic lab of Saudi Arabia	Visit at CIRAD, email exchanges
BURUNDI	Final meeting of of the Integrated Regional Agricultural Development Project in the Great Lakes (PRDAIGL) - Burundi	in situ exchanges
JORDAN	Evaluation of JOVAC laboratory facilities in the frame of the OIE twinning programme	1/2 day mission on steps to be taken for JOVAC to become regional reference laboratory for PPR
BOTSWANA	Participation to inception meeting for FAO/SADC STOSAR project	in situ exchange, agreement on expert activities for coming years

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
Molecular epidemiology, genetic bio-diversity and evolutionary study of recent isolates of peste des petits ruminants viruses (PPRV) in sheep and goats from Nigeria	5 years	Determine genetic diversity and distribution of PPRV in Nigeria	NVRI	NIGERIA
Study of virulence of peste des petits ruminants virus in relation to variability of host response	3 years	Study of virulence of peste des petits ruminants virus in relation to variability of host response	NVI	SWITZERLAND
into Epidemiology and Control of Peste des Petits Ruminants (ECO-PPR)	2 years	to inform and support ongoing national, regional and global efforts for PPR control and eradication by generating the necessary evidence to support policy dialogue.	ILRI ISRA LCV CIRDES	BURKINA FASO MALI SENEGAL
Pathway to Peste des Petits Ruminants Virus Elimination - methods for complex ecosystems	2 years	improve understanding of the host-pathogen ecosystem of livestock, wildlife and PPRV in the Greater Serengeti Ecosystem of Kenya and Tanzania to facilitate the design of effective and efficient surveillance and vaccination strategies for the elimination of PPRV.	RVC, Pirbright, Kenya Wildlife Service (KWS) and Tanzania Wildlife Research Institute (TAWIRI),Ngorongoro Conservation Area Authority (NCAA)	KENYA TANZANIA UNITED KINGDOM

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:
PPRV genetic data

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:
Under preparation for submission to genbank and submission of scientific article, in agreement with collaborating institutions.

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: 4
• Eloiflin R-j, Boyer M, Kwiatek O, Guendouz S, Loire E, Servan de Almeida R, et al. (2019) Evolution of attenuation and risk of reversal in peste des petits ruminants vaccine strain Nigeria 75/1. Viruses 11:724.
• Tounkara K, Kwiatek O, Niang M, Abou Kounta Sidibe C, Sery A, Dakouo M, et al. (2019) Genetic Evidence for Transboundary Circulation of Peste Des Petits Ruminants Across West Africa. Frontiers in Veterinary Science 6: 275.
• Bataille A., Kwiatek O., Belkhi S., Mounier L., Parida S., Mahapatra M., Caron A., Chubwa C.C., Keyyu J., Kock R., Jones B., Libeau G. (2019) Optimization and evaluation of a non-invasive tool for Peste des Petits Ruminants surveillance and control. Scientific Reports 9, 8p.
• Enchery F., Hamers C., Kwiatek O., Gaillardet D., Montange C., Brunel H., Goutebroze S., Philippe-Reversat C., Libeau G., Hudelet P., Bataille A. (2019) Development of a PPRV challenge model in goats and its use to assess the efficacy of a PPR Vaccine. Vaccine 37: 1667-1673.

b) International conferences: 4
1- Epizone, Berlin, August 2019. Presentation 1: Evolution of attenuation and risk of reversal in Peste des Petits Ruminants vaccine strain Nigeria 75/1; Presentation 2: Vaccination of goats with a thermotolerant experimental vaccine confers a full protection against a PPR virulent challenge

2- PPR Global Research and Expertise Network (PPR-GREN)meeting, Kenya, November 2019. Presentation: Update on activities of OIE/FAO reference lab.

3- Annual workshop of NRLs for PPR, Brussels, 2019. Presentation 1: results of proficiency tests; presentation 2: methodology for PPRV genome sequencing; presnetation 3: update on issues with cELISA kit

4- Meeting of the PPR vaccine producers, Jordan, April 2019. Presentation: Evolution of attenuation and risk of reversal in Peste des Petits Ruminants vaccine strain Nigeria 75/1

c) National conferences: 0

d) Other:
(Provide website address or link to appropriate information) 2
1- EU reference laboratory website (https://eurl-ppr.cirad.fr/)

2- ÉTUDE DE LA DIVERSITÉ GÉNÉTIQUE DU VIRUS DE LA PESTE DES PETITS RUMINANTS AU NIGÉRIA. Anthony Sigismeau. 2019. Montpellier: UM2, 50 p. Mémoire de master 2:Interactions Microorganismes Hôtes et Environnements. Mention Biologie Agrosciences. Université de Montpellier.

3- ASTRE website (http://umr-astre.cirad.fr/)

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: 66
c) Hands-on training courses: 10
d) Internships (>1 month): 2

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
b	BAHRAIN, EGYPT, JORDAN, FRANCE,LEBANON,OMAN, QATAR, SAUDI ARABIA, UAE	2 to 6 from each
b	Albania, Austria, Bosnia and Herzegovinia, Bulgaria, Croatia, Cyprus, Greece, Hungary, Kosovo, Montenegro, Romania, Serbia, Slovenia, North Macedonia, Turkey	2 from each
c	North Macedonia, Serbia, Montenegro	2 from each
c	Russia	1
c	Mali	2
d	Côte d'Ivoire, France	1 from each

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	Attestation d'accréditation.pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
C-ELISA	COFRAC

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?

No

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

Yes

Title of event	Date (mm/yy)	Location	Role (speaker, presenting poster, short communications)	Title of the work presented
PPR-GREN	11/2019	Nairobi	speaker	update on activities of OIE/FAO PPR ref lab
Meeting of PPR vaccine producers	05/2019	Jordan	speaker	Study of virulence of peste des petits ruminants virus in relation to variability of host response

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.
Serology and virology	organiser	1	The Pirbright Institute (TPI)

[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?

No

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?

Yes

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

Purpose for inter-laboratory test comparisons[1]	No. participating laboratories	Region(s) of participating OIE Member Countries
Serology	35	☒Africa ☐Americas ☐Asia and Pacific ☒Europe ☒Middle East
Gene and antigen detection	38	☒Africa ☐Americas ☐Asia and Pacific ☒Europe ☒Middle East

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)
Attendance at the PPR Ad hoc meeting	OIE Headquarters, Paris	Several tasks including to advise the OIE for the endorsement of countries'PPR-free official status and also of their national official control programme with regard to PPR.
Update of the Terrestrial Manual	CIRAD	PPR chapter- requirements for vaccine section
Intervenor in the regional training workshop on the OIE procedures for the official status recognition and endorsement of national official control programmes with regard to peste des petits ruminants (PPR)	Almaty, Kazakhstan	Speaker and participation to working groups
Intervenor in the regional training workshop on the OIE procedure for the official status recognition and endorsement of national official control programme with regard to peste des petits ruminants (PPR) for targeted African countries	Nairobi, Kenya	Speaker and participation to working groups

25. Additional comments regarding your report:

Only half of the demands for PPR vaccine Nigeria 75/1 have gone through complete process of licence agreement and supply of vaccine seed.

This is notably due to the cost of licence fees that CIRAD has to require to vaccine producers for such individual request.

We would like to discuss with OIE, FAO and other institutions to explore ways to facilitate access to vaccine seed to OIE member countries at more affordable rates. Galvmed is interested in taking part to this discussion.