OIE Reference Laboratory Reports Activities

Activities in 2020

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Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Foot and mouth disease
Address of laboratory:	Av. Presidente Kennedy, 7778 25040-000 Duque de Caxias Rio de Janeiro BRAZIL
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Website:	www.paho.org/en/panaftosa
Name (including Title) of Head of Laboratory (Responsible Official):	Ottorino Cosivi, Veterinarian, Director Pan American Center for Foot and Mouth Disease – PANAFTOSA-PAHO/WHO
Name (including Title and Position) of OIE Reference Expert:	Edviges Maristela Pituco, Veterinarian (PhD), Head of Reference Laboratory of Pan American Center for Foot and Mouth Disease – PANAFTOSA-PAHO/WHO
Which of the following defines your laboratory? Check all that apply:	Other: United Nations Agency

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
-	-	-	-
Direct diagnostic tests		Nationally	Internationally
RT-qPCR (real time)	yes		2
Ag ELISA	yes		2
Viral metagenomic	yes		2
Phylogenetic analysis	yes		2

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.

OIE-approved SRR producing laboratory – Select your lab from list:
Supply imported OIE-approved SRR – Select where you import from list:

Disease	Test	Available from
Foot and mouth disease	Enzyme-linked immunosorbent assay (antigen and antibody detection); Virus neutralisation	Dr Donald King Institute for Animal Health, Pirbright Laboratory, Ash Road, Pirbright, Woking, Surrey GU24 0NF, United Kingdom Tel: (44-1483) 23.24.41 Fax: (44-1483) 23.24.48 donald.king@pirbright.ac.uk
Foot and mouth disease	Nonstructural protein tests	Dr Edviges Maristela Pituco Centro Panamericano de Fiebre Aftosa OPS/OMS, Av. President Kennedy 7778, Sao Bento, Duque de Caxias, ZC 25040-004 Rio de Janeiro, Brazil Tel: (55-21) 36.61.90.64 pitucoedv@paho.org

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
NCPanaftosa ELISA 3ABC	NSP antibodies test	produced	◉<10mL ○10-100mL ○100-500mL ○>500mL	○<10mL ◉10-100mL ○100-500mL ○>500mL	CHINESE TAIPEI COLOMBIA ECUADOR
NCPanaftosa ELISA EITB	NSP antibodies test	produced	◉<10mL ○10-100mL ○100-500mL ○>500mL	○<10mL ◉10-100mL ○100-500mL ○>500mL	CHINESE TAIPEI COLOMBIA ECUADOR
FMDV tests	NSP and SP antibodies tests	Supply imported	◉<10mL ○10-100mL ○100-500mL ○>500mL	○<10mL ○10-100mL ○100-500mL ◉>500mL	UNITED KINGDOM

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
NCPanaftosa ELISA 3ABC	FMD NSP antibodies detection	produced	non applicable	226060	8	☐Africa ☒Americas ☒Asia and Pacific ☐Europe ☐Middle East
NCPanaftosa EITB	FMD NSP antibodies detection	produced	non applicable	31152	8	☐Africa ☒Americas ☒Asia and Pacific ☐Europe ☐Middle East
Ag Typing ELISA	FMDV/VSV Antigen Typing	produced	non applicable	3500	5	☐Africa ☒Americas ☐Asia and Pacific ☐Europe ☐Middle East
LPBE ELISA (ELISA CFL)	FMD SP antibodies detection	produced	non applicable	407360	6	☐Africa ☒Americas ☐Asia and Pacific ☐Europe ☐Middle East
Cell lines	Vaccine production	produced	non applicable	12	3	☐Africa ☒Americas ☒Asia and Pacific ☐Europe ☐Middle East
Viral seeds	Vaccine production	produced	non applicable	25	2	☐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?

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?

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
UGANDA	july	0	2

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
GUYANA	Diagnostic support	Technical advice at distance
UGANDA	Quality control of vaccine batch	Technical advice at distance and diagnostic support
IRAN	Diagnostic support	Technical advice at distance
URUGUAY	Technical support	Technical advice at distance
MOROCCO	Diagnostic support	Technical advice at distance
VIETNAM	Diagnostic support	Technical advice at distance
ARGENTINA	Technical support	Technical advice at distance
RUSSIA	Diagnostic support	Technical advice at distance
UNITED KINGDOM	Technical support	Technical advice at distance
VENEZUELA	Technical support	Technical advice at distance and in situ

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
Full genome sequencing of historical strains FMDV isolates in South America	4 years	Deep sequence data for South American FMDV isolates	National Centre for Foreign Animal Disease(NCFAD) Canadian Food Inspection Agency	CANADA
Development and validation of the 3ABC blocking enzyme linked immunosorbent assay for detection of antibodies to foot-and-mouth disease virus	2 years	Development of a test to multiple species for antibodies to FMDV NSP	National Centre for Foreign Animal Disease(NCFAD) Canadian Food Inspection Agency	CANADA UNITED KINGDOM
Validation of the FMD enzyme linked immunoblot assay (EITB) for multiple species	2 years	Development of a confirmatory test to multiple species for antibodies to FMDV NSP	National Centre for Foreign Animal Disease(NCFAD) Canadian Food Inspection Agency	CANADA

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:
Panaftosa receives data from countries and helps them to analyze it epidemiologically to guide the next actions against FMDV in the context of the Plan of Action of each country.

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:
The 47th Ordinary Meeting of the South American Commission for the fight of Foot-and-Mouth Disease (COSALFA 47) was held in August 27 and 28 as a virtual event. In the meeting was analysed the current FMD situation in South America according with the Hemispheric Program for the Eradication of FMD (PHEFA) Action plan 2011-2020. All the data collected regarding vesicular diseases were presented on COSALFA 47: http://www.panaftosa.org/cosalfa47/index.php?option=com_content&view=article&id=81&Itemid=78&lang=en

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: 2
Eschbaumer M, Vögtlin A, Paton DJ, Barnabei JL, Sanchez-Vazquez MJ, Pituco EM, Rivera AM, O'Brien D, Nfon C, Brocchi E, Bakkali Kassimi L, Lefebvre DJ, Navarro López R, Maradei E, Duffy SJ, Loitsch A, De Clercq K, King DP, Zientara S, Griot C, Beer M. Nondiscriminatory Exclusion Testing as a Tool for the Early Detection of Foot-and-Mouth Disease Incursions. Front Vet Sci. 2020 Nov 19;7:552670. doi: 10.3389/fvets.2020.552670.

Allende, R. M.; Andrade, D. F.; Reis, J. L.; Pituco, E. M. Rapid test to detect cytotoxic activity in vaccines against foot-and-mouth disease. Arq. Inst. Biol. [online]. 2020, vol.87, e0602019. Epub Nov 20, 2020. ISSN 1808-1657. https://doi.org/10.1590/1808-1657000602019.

b) International conferences: 5
Ex Officio Secretary's Report - Resolutions and Technical Cooperation with countries. Alejandro Rivera - PANAFTOSA - OPS/OMS - COSALFA47 2020 - http://www.panaftosa.org/cosalfa47/dmdocuments/Presentacion-InformeSecretaria-COSALFA47.pdf

Ex Officio Secretary's Report - Production Laboratory. Anna Paula Alvim - PANAFTOSA - OPS/OMS - COSALFA47 2020 - http://www.panaftosa.org/cosalfa47/dmdocuments/Presentacion-COSALFA47_AAlvim.pdf

Ex Officio Secretary's Report - Reference Laboratory. Maristela Pituco - PANAFTOSA - OPS/OMS - COSALFA47 2020 - http://www.panaftosa.org/cosalfa47/dmdocuments/Presentacion-COSALFA-espanol-Pituco_26-08-2020.pdf

Status Report on the Programs for the Eradication of Foot-and-Mouth Disease, in South America and Panama, 2019 - Manuel Sánchez Vasquez - PANAFTOSA - OPS/OMS - COSALFA47 2020 - http://www.panaftosa.org/cosalfa47/dmdocuments/Presentacion-COSALFA47_ManuelSanchez.pdf

Presentation of the Biennial Technical Cooperation Plan of PANAFTOSA - Alejandro Rivera - PANAFTOSA - OPS/OMS - COSALFA47 2020 - http://www.panaftosa.org/cosalfa47/dmdocuments/Presentacion_COSALFA47-PlanBienal2020-2021.pdf

c) National conferences: 0

d) Other:
(Provide website address or link to appropriate information) 1
Manual de Investigação de Doença Vesicular, 1a Edição, Ministério da Agricultura, Pecuária e Abastecimento, 2020 - elaborated with the partnership of the Ministry of Agriculture, Livestock and Food Supply (MAPA), Panaftosa, and State Veterinary Services (SVE). Link: https://www.gov.br/agricultura/pt-br/assuntos/sanidade-animal-e-vegetal/saude-animal/programas-de-saude-animal/febre-aftosa/manualinvestigacaodoencavesicular.pdf

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: 1
b) Seminars: 0
c) Hands-on training courses: 6
d) Internships (>1 month): 0

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
c	Brazil (Acre)	45
c	Brazil (Maranhão)	53
c	Brazil (Mato Grosso do Sul)	105
c	Brazil (Rio Grande do Sul)	92
c	Brazil (Rondônia)	60
c	Brazil (Santa Catarina)	350
a	Argentina	15

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)
ABNT NBR ISO/IEC 17025:2017	CRL 1309 PANAFTOSA 170252017.pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
I-ELISA 3ABC	CGCRE/INMETRO - Brazil
ELISA 3ABC (block)	CGCRE/INMETRO - Brazil
EITB	CGCRE/INMETRO - Brazil
ELISA CFL	CGCRE/INMETRO - Brazil
Virus neutralization	CGCRE/INMETRO - Brazil

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
15th Annual Meeting OIE/FAO Reference Laboratories	December/20	Online	Speaker	Laboratory Panaftosa - Annual Report 2020
Virtual workshop on the official recognition of the OIE status for animal diseases, focused on the maintenance, reconfirmation, suspension and recovery of the status for Foot-and-Mouth Disease	December/20	Online	Speaker	Support from the OIE Reference Laboratories: What is the support provided by the Reference Laboratories in relation to the reconfirmation of the status and its eventual need for reinstatement?

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.
Determining capability of laboratories to conduct FMD antigen detection tests	participant	not yet disclosed	Organized by The Pirbright/UK Institute
Determining capability of laboratories to conduct FMD molecular biology tests	participant	not yet disclosed	Organized by The Pirbright/UK Institute
Determining laboratory's capability to conduct FMD NSP antibody detection tests	participant	not yet disclosed	Organized by The Pirbright/UK Institute
Determining laboratory's capability to conduct FMD SP antibody detection tests	participant	not yet disclosed	Organized by The Pirbright/UK Institute
Determining capability of laboratories to conduct SVDV molecular biology tests as a differential of FMD	participant	not yet disclosed	Organized by The Pirbright/UK Institute
Determining laboratory's capability to conduct SVDV antibody detection tests as a differential of FMD	participant	not yet disclosed	Organized by The Pirbright/UK Institute

[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
Determining capability of laboratories to conduct FMD molecular biology tests	11	☐Africa ☒Americas ☐Asia and Pacific ☐Europe ☐Middle East
Determining capability of laboratories to conduct FMD antigen detection tests	12	☐Africa ☒Americas ☐Asia and Pacific ☐Europe ☐Middle East
Determining laboratory's capability to conduct FMD NSP antibody detection tests	16	☐Africa ☒Americas ☐Asia and Pacific ☐Europe ☐Middle East
Determining laboratory's capability to conduct FMD SP antibody detection tests	8	☐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)
Expert to OIE ad hoc Group on Evaluation of Foot and Mouth Disease Status of Members (Dr Manuel Sanchez)	Virtual	Review and discuss the applications submitted by the countries

25. Additional comments regarding your report: