OIE Reference Laboratory Reports Activities

Activities in 2019

This report has been submitted : 2020-01-17 17:16:06

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Foot and mouth disease
Address of laboratory:	P.O. Box 848 Greenport, NY 11944 UNITED STATES OF AMERICA
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Name (including Title) of Head of Laboratory (Responsible Official):	Dr. Karl J. Hochstein, Acting Director, National Veterinary Services Laboratories, DB, VS, APHIS, USDA
Name (including Title and Position) of OIE Reference Expert:	Dr. Consuelo Carrillo, VMO-Senior Animal Health Advisor, Diagnostic Services Section, FADDL, NVSL, DB, VS, APHIS, USDA
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	
Indirect diagnostic tests		Nationally	Internationally
ELISA (NSP, 3ABC)	YES	483	0
VIAA (AGID)	NO	0	0
VIRUS NEUTRALIZATION	YES	0	0
Ag ELISA (VI)	YES	0	0
Direct diagnostic tests		Nationally	Internationally
IBRS-2 CELL CULTURES	YES	1055	0
LAMB KIDNEY CELL CULTURES	YES	1055	0
Real-Time RT-PCR	YES	1807	0
Whole GENOME SEQ	NO	0	0

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?

No

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?

No

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
Method harmonization and evaluating oral fluids as a sample for FMDV, CSFV, ASFV; small scale positive cohort evaluation	3 years	validate oral fluids as diagnostic sample type for FMD detection	Canadian Food Inspection Agency (CFIA)	CANADA VIETNAM

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?

No

If the answer is no, please provide a brief explanation of the situation:
There are no current outbreaks of FMD in the region, and isolates from other regions are generally sent to either the FAO world reference center in UK or other OIE reference centers geographically closer to the outbreak region.

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:
During 2019, FADDL participated in the publication of data related to new diagnostic test developments and the Uganda FMD evaluation performed (and reported) during 2018

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

1. Fernandez-Sainz, I., Gavitt, T. D., Koster, M., Ramirez-Medina, E., Rodriguez, Y. Y., Wu, P., Silbart, L. K., de Los Santos, T., and Szczepanek, S. M. (2019). The VP1 G-H loop hypervariable epitope contributes to protective immunity against Foot and Mouth Disease Virus in swine. Vaccine, 37(26), 3435-3442. doi: 10.1016/j.vaccine.2019.05.019.

2. Frank Norbert Mwiine, Lauro Velazquez-Salinas, Zaheer Ahmed, Sylvester Ochwo, Anna Munsey, Mary Kenny, Julius J. Lutwama, Francois F. Maree, Leslie Lobel, Andres M. Perez, Luis L. Rodriguez, Kimberly Vander-Waal, and Elizabeth Rieder. (2019). Serological and Phylogenetic Characterization of Foot and Mouth Disease Viruses from Uganda during Cross Sectional Study in Cattle between 2014-2017. Transbound Emerg Dis. 00:1-14, 2019.

3. Yin Wang, Amaresh Das, Wanglong Zheng, Elizabeth Porter, Lizhe Xu, Lance Noll, Xuming Liu, Kimberly Dodd, Wei Jia, and Jianfa Bai (2019). Development and evaluation of multiplex real time RT-PCR assays for detection and

differentiation of foot-and-mouth disease virus and Seneca Valley virus-1. Transboundary and Emerging Diseases (In publication). Currently online available: doi:10.1111/TBED.13373

4. Anna Munsey, Frank Mwiine, Sylvester Ochwa, Lauro Velazquez-Salinas, Zaheer Ahmed, Francois F Maree, Luis Rodriguez, Elizabeth Rieder, Andres Perez, and Kimberly VanderWaal. (2019). Spatial distribution and risk factors for foot and mouth disease virus in Uganda: Opportunities for strategic surveillance. Preventive Veterinary Medicine (PREVET) (Accepted in August 2019)

b) International conferences: 4
OIE/FAO FMD Reference Laboratory Network Meeting, Busan, South Korea, 3-6 December, 2019

Global Foot and Mouth Disease Research Alliance (GFRA) in Bangkok, Thailand – Oct 29-31, 2019

EU Reference Laboratory Network meeting (ANSES)in Paris, France Oct 8-10 2019

Comisión Sudamericana para la Lucha Contra la Fiebre Aftosa (COSALFA) 46 meeting, Cartagena (COLOMBIA), 29 April - 3 May, 2019

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?

No

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 diagnostics	2526-04 Biological testing.pdf
ISO 17043 proficiency	2526-08 PT provider.pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Antigen capture ELISA	A2LA-ILAC
Virus Isolation	A2LA-ILAC
Virus Neutralization	A2LA-ILAC
3ABC ELISA	A2LA-ILAC
real time RT-PCR	A2LA-ILAC
VIAA-AGID	A2LA-ILAC

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?

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.
FMD and SVD combined proficiency test scheme (PTS)	participant	4	Organized by: the European Union Reference Laboratories (EURL) and FAO World Reference Laboratory (WRL)
FMDV proficiency test PANAFTOSA	participant	4	Organized by: PANAFTOSA (WHO), Pedro Leopoldo-Brazil

[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
Harmonization of foreign animal disease diagnostics, including Foot and mouth disease virus	PCR, particularly as different assays perform on aggregate sample types such as oral fluids	Canada: Canadian Food Inspection Agency

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
Organized: Foot and Mouth Disease rRT-PCR Proficiency Tests (PT) and Evaluation	47	☐Africa ☒Americas ☐Asia and Pacific ☐Europe ☐Middle East
FMDV rRT-PCR training, proficiency test, and evaluation	1	☐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)
SME for the Biological Standards Commission: I participate as one of the three OIE experts in a panel to evaluate the validation dossier submitted to OIE by diagnostic kit manufacturers that wish to have their kits certified by the OIE as validated fit for some specific purpose(s)to OIE	web based communications	The mission of this panel of experts is to inform the OIE Biological Standards Commission if the kit can be certified by the OIE for the purposes mentioned by the kit manufacturer. Based on the final report of the panel of experts and on the dossier, the Biological Standards Commission has to decide to propose or not the kit for inclusion in the OIE register of recognized diagnostic assays to the vote of the World Assembly of Delegates

25. Additional comments regarding your report:

Thanks to the efforts and good policies for FMD control and eradication in the Americas, there is almost no activity of the disease in this region. In fact, since the designation of FADDL as OIE Reference Center, our laboratory has actively identified, characterized, and cooperated in the response to the only two outbreaks registered in the Region of the Americas (Ecuador 2010 and Colombia 2017/18). Currently, FMD is most active in the African continent, Middle East and other distant locations that have historically been using the FAO/OIE WRC in Pirbright (UK) as reference laboratory. Therefore, despite FADDL's excellent relationships and communication with the Pirbright WRCL, we are, at this moment, mostly occupied with in domestic functions (preparedness, surveillance, and emergency response) more than with international activities.

Secondly, FADDL is currently transitioning from the Plum Island Animal Disease Center (New York to the new National Bio and Agro Defense Facility (NBAF) in Manhattan (Kansas) which is expected to be fully functional in mid-2023. To ensure the secure transfer and smooth transition of activities, FADDL is engaged in a very intense activity for the full characterization, identification, and classification of the historical inventory of FADDL diagnostic materials and reagents, including the infectious agents, vaccine antigens, and viral stocks.