

OIE Reference Laboratory Reports Activities

Activities in 2021

This report has been submitted : 2022-01-19 19:38:25

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Leptospirosis
Address of laboratory:	USDA, APHIS, Veterinary Services P.O. Box 844 Ames, Iowa 50010 UNITED STATES OF AMERICA
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Name (including Title) of Head of Laboratory (Responsible Official):	Dr. Suelee Robbe-Austerman, Director, National Veterinary Services Laboratories, DB, VS, APHIS, USDA
Name (including Title and Position) of OIE Reference Expert:	Matthew M. Erdman, Senior Staff Veterinarian, Center for Veterinary Biologics, STAS, 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	
		Nationally	Internationally
Indirect diagnostic tests		Nationally	Internationally
NA	NA	NA	NA
Direct diagnostic tests		Nationally	Internationally
Leptospirosis Microscopic Agglutination Test	Yes	339	38
Fluorescent Antibody Testing	No	409	0
Isolation and Identification	Yes	303	0
Real-Time LipL32 PCR	Yes	636	0
Whole Genome Sequencing	No	39	4
16S and secY PCR	Yes	50	0
Serogrouping	Yes	77	0
MALDI Species Identification	No	66	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?

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
Reference Positive Control Sera	MAT, Serogrouping	Provided	70 ml	130 ml	6	<input type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East
Reference Positive Control Sera	MAT, Serogrouping	Produced	1389 ml	N/A	1	<input type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East
Reference Negative Control Sera	MAT	Provided	806 ml	4 ml	1	<input type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East
Reference Cultures	MAT	Provided	606 ml	462 ml	5	<input type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East
Multivalent Fluorescent Antibody (FA) Conjugate	FAT	Provided	8 ml	N/A	1	<input type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East
Leptospira Medium	MAT, FAT, ISOLATION	Provided	258500 ml	21910 ml	2	<input type="checkbox"/> Africa <input checked="" 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?

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
BELGIUM	FEB, MAR, MAY, JUN, SEP, OCT, NOV, DEC	22	0
COLOMBIA	MAR, DEC	8	0
CURACAO	APR	3	0
PANAMA	AUG	1	0
GUATEMALA	OCT	4	0

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?

No

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:
N/A

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

No

If the answer is no, please provide a brief explanation of the situation:
N/A

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

Cranford HM, Browne AS, LeCount K, Anderson T, Hamond C, Schlater L, Stuber T, Burke-France VJ, Taylor M, Harrison CJ, Matias KY, Medley A, Rossow J, Wiese N, Jankelunas L, de Wilde L, Mehalick M, Blanchard GL, Garcia KR, McKinley AS, Lombard CD, Angeli NF, Horner D, Kelley T, Worthington DJ, Valiulis J, Bradford B, Berentsen A, Salzer JS, Galloway R, Schafer IJ, Bisgard K, Roth J, Ellis BR, Ellis EM, Nally JE. Mongooses (*Urva auropunctata*) as reservoir hosts of *Leptospira* species in the United States Virgin Islands, 2019-2020. *PLoS Negl Trop Dis*. 2021 Nov 15;15(11):e0009859. doi: 10.1371/journal.pntd.0009859.

Cranford HM, Taylor M, Browne AS, Alt DP, Anderson T, Hamond C, Hornsby RL, LeCount K, Schlater L, Stuber T, De Wilde L, Burke-France VJ, Ellis EM, Nally JE, Bradford B. Exposure and Carriage of Pathogenic *Leptospira* in Livestock in St. Croix, U.S. Virgin Islands. *Trop Med Infect Dis*. 2021 May 24;6(2):85. doi: 10.3390/tropicalmed6020085.

b) International conferences: 2

Camila Hamond. The importance of culture to detect and diagnose animal leptospirosis. Latin American Conference on Animal Leptospirosis. December 1, Rio de Janeiro-RJ, Brazil (Online presentation).

Camila Hamond. Diagnosis of Animal Leptospirosis. 1st National Conference on Leptospirosis in the Amazon - One

Health. December 14, Manaus -AM, Brazil (Online presentation).

c) National conferences: 1

Camila Hamond. Rodents act as reservoir hosts to excrete multiple species and serogroups of *Leptospira* concurrently. Conference of Research Workers in Animal Diseases. December 4, Chicago-IL.

K. LeCount, S. Browne, T. Stuber, L. Schlater, C. Hamond, L. Virgilio Fernandes, L. de Wilde, H. Cranford, J. Salzer, I. Schafer, E. Ellis, J. Nally. Rodents act as reservoir hosts to excrete multiple species and serogroups of *Leptospira* concurrently. Proceeding of 102nd Conference of Research Workers in Animal Diseases. December 4-7, 2021, page 376. <https://crwad.org/wp-content/uploads/CRWAD-2021-Proceedings-FINAL.pdf>

d) Other:

(Provide website address or link to appropriate information) 4

www.aphis.usda.gov; email and internet

Reviewer for Plos Neglected Disease, Plos One and Epidemiology and Infection.

Participation as member of Master qualification defense: In vitro antimicrobial susceptibility profile of *Leptospira interrogans* serovar Copenhageni obtained from naturally infected dogs. Federal Bahia University. May 27, 2021.

Participation as member of PhD qualification defense: Comparative analysis of genomes of *Leptospira interrogans* isolated from dogs, humans, and rodents in the same epidemiological scenario. Federal Bahia University. October 29, 2021.

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 Biological Testing	2526-01 (1).pdf
ISO 17043 Proficiency Testing Provider	2526-06.pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Leptospira Microscopic Agglutination Test	A2LA

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?

No

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?

No

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
Serotyping of leptospire with monoclonal antibodies	Serological typing of Leptospiral isolates	Leptospirosis Reference Center - The Netherlands

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?

No

25. Additional comments regarding your report:

Participated in a multiple large surveillance studies that greatly increased variety of tests and testing numbers this year. An ORISE post-doc on staff that as increased testing as well.