

WOAH Reference Laboratory Reports Activities 2024

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LABORATORY INFORMATION

*Name of disease (or topic) for which you are a designated WOA Reference Laboratory:	Leptospirosis
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Website:	https://www.aphis.usda.gov/labs
*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 WOA Reference Expert:	Dr. Matthew Erdman, Science Advisor, National Veterinary Services Laboratories, DB, VS, APHIS, USDA
*Which of the following defines your laboratory? Check all that apply:	Governmental

TOR1: DIAGNOSTIC METHODS

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 WOA Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally
Leptospirosis Microscopic Agglutination Test	Yes	2226	76
Direct diagnostic tests		Nationally	Internationally
Real-Time LipL32 PCR	Yes	88	0
Serogrouping	Yes	30	0

Matthew Erdman - -

Isolation	Yes	4	0
Whole Genome Sequencing	No	54	0

TOR2: REFERENCE MATERIAL

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

No

3. Did your laboratory supply standard reference reagents (nonWOAH-approved) and/or other diagnostic reagents to WOA?H Members?

Yes

Type of reagent available	Related diagnostic test	Produced/ provide	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	No. of recipient WOA?H Member Countries	Country of recipients
Reference Positive Control Sera	MAT, Serogrouping	Provided	149 ml	180 ml	5	CANADA, CHILE, COLOMBIA, PERU, UNITED STATES OF AMERICA,
Reference Negative Control Sera	MAT	Provided	14 ml	0 ml	1	UNITED STATES OF AMERICA,
Reference Cultures	MAT	Provided	1334 ml	520 ml	5	CANADA, COLOMBIA, HUNGARY, PERU, UNITED STATES OF AMERICA,
Multivalent Fluorescent Antibody (FA) Conjugate	FAT	Provided	3 ml	0 ml	1	UNITED STATES OF AMERICA,
Leptospira Medium	MAT, FAT, ISOLATION	Produced/Provided	352,350 ml	22,800 ml	2	CANADA, UNITED STATES OF AMERICA,

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOA?H Members?

No

TOR3: NEW PROCEDURES

6. Did your laboratory develop new diagnostic methods for the designated pathogen or disease?

No

7. Did your laboratory validate diagnostic methods according to WOA?H Standards for the designated pathogen or disease?

No

8. Did your laboratory develop new vaccines for the designated pathogen or disease?

No

9. Did your laboratory validate vaccines according to WOAHP Standards for the designated pathogen or disease?

No

TOR4: DIAGNOSTIC TESTING FACILITIES

10. Did your laboratory carry out diagnostic testing for other WOAHP Members?

Yes

Name of WOAHP Member Country seeking assistance	Date	Which diagnostic test used	No. samples received for provision of diagnostic support	No. samples received for provision of confirmatory diagnoses
THE NETHERLANDS - ARUBA	2024-11-20	MAT	1	0
CURACAO	2024-01-31	MAT	1	0
COLOMBIA	2024-04-04	MAT	3	0
GUATEMALA	2024-12-19	MAT	1	0
CURACAO	2024-08-21	MAT	3	0
CURACAO	2024-05-14	MAT	3	0
CURACAO	2024-06-20	MAT	1	0
COLOMBIA	2024-07-07	MAT	3	0
CURACAO	2024-09-29	MAT	1	0

11. Did your laboratory provide expert advice in technical consultancies on the request of an WOAHP Member?

Yes

Name of the WOAHP Member Country receiving a technical consultancy	Purpose	How the advice was provided
MADAGASCAR	Microscopic Agglutination Testing Training and reference culture selection	remote

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

12. Did your laboratory participate in international scientific studies in collaboration with WOAHP Members other than the own?

No

13. In exercising your activities, have you identified any regulatory research needs* relevant for WOAHP?

No

TOR6: EPIZOOLOGICAL DATA

14. Did your Laboratory collect epidemiological data relevant to international disease control?

No

15. Did your laboratory disseminate epidemiological data that had been processed and analysed?

No

16. What method of dissemination of information is most often used by your laboratory? (Indicate in the appropriate box the number by category and list the details in the box)

a) Articles published in peer-reviewed journals:

1

Hamond C, Adam EN, Stone NE, LeCount K, Anderson T, Putz E, Camp P, Hicks J, Stuber T, van der Linden H, Bayles DO, Sahl JW, Schlater LK, Wagner DM and Nally JE. Identification of equine mares as reservoir hosts for pathogenic species of *Leptospira*. *Front. Vet. Sci.* 11:1346713. doi: 10.3389/fvets.2024.1346713(2024)

b) International conferences:

3

LeCount K, Anderson T, Toot K, Haluch A, Morningstar-Shaw B. *Leptospirosis in United States Zoos. 13th Conference of the International Leptospirosis Society and 4th Meeting of the European Leptospirosis and other rodent-borne haemorrhagic fevers Society, Brussels, Belgium, September 2-4, 2024*

Hamond C, Browne AS, Putz EJ, Camp P, LeCount K, Anderson T, Hicks JA, Stuber T, LGV, Tibbs-Cortes BW, Ahmed A, van der Linden H, Bayles DO and Nally JE. Isolation of *Leptospira* from Cattle in the United States. 13th Conference of the International Leptospirosis Society and 4th Meeting of the European Leptospirosis and other rodent-borne haemorrhagic fevers Society, Brussels, Belgium, September 2-4, 2024.

Yasir A, Ramos LJS, Coriano N, Gutierrez RR, Schafer I, Ward C, Mueller M, Nally J, Hamond C, LeCount K, Anderson T, Galloway R, Atherstone C, Munoz-Zanzi C. Epidemiological investigation of leptospirosis in Puerto Rico through hospital active surveillance and community-based animal sampling. 13th Conference of the International Leptospirosis Society and 4th Meeting of the European Leptospirosis and other rodent-borne haemorrhagic fevers Society, Brussels, Belgium, September 2-4, 2024.

c) National conferences:

3

Stone NE, Joel Clegg J, Hamond C, McDonough RF, Hertzell H, Busch JD, Sahl JW, LeCount K, Galloway RL, Hill N, Madison J, Weiner Z, Nally JE, Rosenbaum M, David M. Wagner. Limited dispersal drives leptospirosis transmission patterns among brown rats in Boston, MA *Biology of Spirochetes Gordon Research Conference. January 2024, Ventura, CA.*

Hamond C, LeCount K, Anderson T, Morningstar-Shaw BR, Schlater LK, Wunder Jr EA. Evaluation of new antigens for ELISA as an alternative method for the serodiagnosis of bovine leptospirosis. *Conference of Research Workers in Animal Diseases, January 2024, Chicago, IL.*

Yasir A, Ramos LJS, Coriano N, Gutierrez RR, Schafer I, Mueller M, Nally J, Hamond C, LeCount K, Anderson T, Galloway R, Munoz-Zanzi C. Presence and diversity of *Leptospira* in domestic animals, rodents, and mongooses in Puerto Rico communities. *Conference of Research Workers in Animal Diseases, January 2024, Chicago, IL.*

d) Other (Provide website address or link to appropriate information):

1

<https://www.aphis.usda.gov/labs>; email and internet

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

17. Did your laboratory provide scientific and technical training to laboratory personnel from other WOA Members?

Yes

a) Technical visit : 0

b) Seminars : 0

c) Hands-on training courses: 24

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	UNITED STATES OF AMERICA	24

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO 17025	PDF	2526-01 (1).pdf
ISO 17043	PDF	2526-06.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Leptospira Microscopic Agglutination Test	A2LA
Leptospira Real-time PCR	A2LA
Leptospira Fluorescent Antibody Testing	A2LA
Leptospira Microscopic Agglutination Test Proficiency Testing	A2LA

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

Yes

The NVSL operates under campus and laboratory specific biorisk plans that comply with biosafety level 2 and 3 per the latest edition of Biosafety in Microbiological and Biomedical Laboratories (BMBL) <https://www.cdc.gov/labs/BMBL.html> as well as Federal Select Agent Program Federal Select Agent Program (selectagents.gov) requirements for regulated pathogens including virulent Newcastle disease virus and highly pathogenic avian influenza.

TOR9: SCIENTIFIC MEETINGS

21. Did your laboratory organise scientific meetings related to the pathogen in question on behalf of WOA?

No

22. Did your laboratory participate in scientific meetings related to the pathogen in question on behalf of WOA?

No

TOR10: NETWORK WITH WOA REFERENCE LABORATORIES

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

No

24. Do you network (collaborate or share information) with other WOA Reference Laboratories designated for the same pathogen?

No

25. Did you organise or participate in inter-laboratory proficiency tests with WOA Reference Laboratories designated for the same pathogen during the past 2 years?

No

The NVSL will be participating in an international proficiency test in 2025 and we will also be producing our own proficiency test in 2025.

26. Did your laboratory collaborate with other WOA 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 WOA Reference Laboratories
Serotyping of leptospires with monoclonal antibodies	Serological typing of Leptospiral isolates	Leptospirosis Reference Center - The Netherlands

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

27. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than WOA Reference Laboratories for the same pathogen during the past 2 years?

No

No

TOR12: EXPERT CONSULTANTS

28. Did your laboratory place expert consultants at the disposal of WOA?

No

29. Additional comments regarding your report:

Yes

To meet the proficiency test requirement and explain our no response on #25, while we did not produce or take one in 2024, the NVSL will be participating in an international proficiency test in 2025 and we will also be producing our own proficiency test in 2025.