

WOAH Reference Laboratory Reports Activities 2025

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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:	Karen LeCount, Microbiologist, 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	
		Nationally	Internationally
Indirect diagnostic tests			
Leptospirosis Microscopic Agglutination Test	Yes	1487	1260
Direct diagnostic tests			
Real-Time LipL32 PCR	Yes	54	5
Serogrouping	Yes	12	0
Whole Genome Sequencing	No	50	0
Restriction Endonuclease Analysis	No	78	0
Isolation	Yes	3	0

TOR2: REFERENCE MATERIAL

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

No

3. Did your laboratory supply standard reference reagents (nonWOAH-approved) and/or other diagnostic reagents to WOA 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 Member Countries	Country of recipients
						CANADA, LATVIA,

Matthew Erdman - -

Reference Positive Control Sera	MAT, Serogrouping	Provided	134 ml	44 ml	5	MALAYSIA, MEXICO, UNITED STATES OF AMERICA,
Reference Negative Control Sera	MAT	Provided	14 ml	0 ml	1	UNITED STATES OF AMERICA,
Reference Cultures	MAT	Provided	1,106 ml	408 ml	9	AUSTRALIA, CHILE, COLOMBIA, KOREA (REP. OF), LATVIA, NEW ZEALAND, PERU, UNITED STATES OF AMERICA,
Multivalent Fluorescent Antibody (FA) Conjugate	FAT	Provided	2 ml	5 ml	2	HUNGARY, UNITED STATES OF AMERICA,
Leptospira Medium	MAT, FAT, ISOLATION, WGS, REA	Produced/Provided	343,215 ml	25,100 ml	2	CANADA, UNITED STATES OF AMERICA,

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOAHA Members?

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 WOAHA Standards for the designated pathogen or disease?

No

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

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

TOR4: DIAGNOSTIC TESTING FACILITIES

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

Yes

Name of WOAHA 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
COLOMBIA	2025-01-15	MAT	2	0
CUBA	2025-01-15	MAT	72	0
CURACAO	2025-02-19	MAT	2	0
GUATEMALA	2025-04-01	MAT	1	0
THE NETHERLANDS - ARUBA	2025-02-19	MAT	1	0
COLOMBIA	2025-06-19	MAT	3	0
THE NETHERLANDS	2025-08-07	MAT	6	0
CURACAO	2025-08-07	MAT	3	0
CURACAO	2025-09-03	MAT	2	0
COLOMBIA	2025-09-24	MAT	4	0
CURACAO	2025-09-24	MAT	3	0
COLOMBIA	2025-10-14	MAT	2	0
COLOMBIA	2025-11-14	MAT	6	0
CURACAO	2025-11-24	MAT	1	0
THE NETHERLANDS - ARUBA	2025-12-03	PCR	0	1
PUERTO RICO	2025-03-25	PCR	4	0

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

Yes

Name of the WOAHA Member Country receiving a technical consultancy	Purpose	How the advice was provided
CURACAO	Information on MAT and PCR in detecting acute infections in horses	Remote

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

No

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

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:

Hamond C, Tibbs-Cortes B, Fernandes LGV, LeCount K, Putz E, Anderson T, Camp P, Stuber T, Hicks J, Hans Linden H, Dos Santos Ribeiro P, Bayles DO, Linda K Schlater LK, Nally JE. Leptospira gorisiae sp. nov, L. cinconiae sp. nov, L. mgodei sp. nov, L. milleri sp. nov and L. iowaensis sp. nov, five new species isolated from water sources in the Midwestern United States. Int J Syst Evol Microbiol. 2025 Jan;75(1):006595. doi: 10.1099/ijsem.0.006595. PMID: 39773342; PMCID: PMC11706286.

Yasir A, Santiago Ramos LJ, Gutierrez RR, Schafer JJ, Coriano-Diaz N, Mueller M, Maldonado J, Aviles VJ, Oquendo MC, Rivera VC, De Leon Marrero J, Nally JE, Galloway R, Kircher A, Hamond C, LeCount K, Anderson T, Ward C, Munoz-Zanz C. Presence and Diversity of Leptospira Species and Serogroups in Domestic Animals, Rodents, and Mongooses in Puerto Rico Communities (October 01, 2025). Available at SSRN: <https://ssrn.com/abstract=5888503> or <http://dx.doi.org/10.2139/ssrn.5888503>

Stone NE, Hamond C, Clegg JR, McDonough RF, Bourgeois RM, Ballard R, Thornton NB, Nuttall M, Hertzell H, Anderson T, Whealy RN, Timm S, Roberts AK, Barragán V, Phipatanakul W, Leibler JH, Benson H, Specht A, White R, LeCount K, Furstenau TN, Galloway RL, Hill NJ, Madison JD, Fofanov VY, Pearson T, Sahl JW, Busch JD, Weiner Z, Nally JE, David M, Wagner DM, Rosenbaum MH. Host population dynamics influence Leptospira spp. transmission patterns among Rattus norvegicus in Boston, Massachusetts, US. PLoS Negl Trop Dis 19(4): e0012966. <https://doi.org/10.1371/journal.pntd.0012966> Published: April 15, 2025

Hamond C, Stone NE, Putz EJ, Fernandes LGV, Anderson T, Camp P, Hicks J, Stuber T, van der Linden H, dos Santos Ribeiro P, Bayles DO, Sahl JW, Wagner DM, Nally JE. Bull urine and semen as potential vectors of disease transmission for Leptospira borgpetersenii serovar Hardjo, Journal of Dairy Science, Volume 108, Issue 12, 2025, Pages 13643-13653, ISSN 0022-0302, <https://doi.org/10.3168/jds.2025-27020>.

b) International conferences:

0

c) National conferences:

0

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 WOAHP Members?

No

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 (2).pdf
ISO 17043	PDF	2526-06 (1).pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Leptospira Microscopic Agglutination Test Proficiency Test	A2LA
Leptospira Microscopic Agglutination Test	A2LA
Real-time PCR	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 WOAHP?

No

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

No

TOR10: NETWORK WITH WOAHP REFERENCE LABORATORIES

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

No

24. Are you a member of a network of WOAHP Reference Laboratories designated for the same pathogen?

No

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

Yes

Purpose of the proficiency test:	Role of your Reference Laboratory (organiser/ participant)	No. participating Laboratories	Participating WOAHP Ref. Labs/ organising WOAHP Ref Lab
International Proficiency Testing Scheme for the Leptospirosis Microscopic Agglutination Test	Participant	66 participants, number of labs not given	Leptospirosis Reference Center - The Netherlands

26. Did your laboratory collaborate with other WOAHP 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 WOAHP 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?

Yes

Purpose for inter-laboratory test comparisons ¹	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the test	WOAH Member Countries
Leptospira Microscopic Agglutination Test	Organizer	36	Microscopic Agglutination Test	CANADA, UNITED STATES OF AMERICA,

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

No