WOAH Reference Laboratory Reports Activities 2022

Activities in 2022

This report has been submitted : 26 avril 2023 10:29

Laboratory Information

Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:	Leptospirosis
Address of laboratory:	1910 Dayton Ave, Ames, IA 50010 USA
Tel.:	15153376144
E-mail address:	matthew.m.erdman@usda.gov
Website:	
Name (including Title) of Head of Laboratory (Responsible Official):	Suelee Robbe-Austerman, Director
Name (including Title and Position) of WOAH Reference Expert:	Matthew Erdman, Science Advisor
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 WOAH Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally
Direct diagnostic tests		Nationally	Internationally
Leptospirosis Microscopic Agglutination Test	Yes	3836	402

Fluorescent Antibody Testing	No	122	0
Isolation and Identification	Yes	30	0
Real-Time LipL32 PCR	Yes	289	0
Whole Genome Sequencing	No	33	0
16S and secY PCR	Yes	30	0
Serogrouping	Yes	14	0
MALDI Species Identification	No	3	0

TOR2: REFERENCE MATERIAL

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

No

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

Yes

TYPE OF REAGENT AVAILABLE	RELATED DIAGNOSTIC TEST	PRODUCED/ PROVIDE	AMOUNT SUPPLIED NATIONALLY (ML, MG)	AMOUNT SUPPLIED INTERNATIONALLY (ML, MG)	NO. OF RECIPIENT WOAH MEMBER COUNTRIES	COUNTRY OF RECIPIENTS
Reference Positive Control Sera	MAT, Serogrouping	Provided	130 ml	174 ml	5	America Asia and Pacific
Reference Positive Control Sera	MAT, Serogrouping	Produced	1,538 ml	NA	1	America
Reference Negative Control Sera	MAT	Provided	16 ml	0	1	America
Reference Cultures	MAT	Provided	790 ml	302 ml	4	America Asia and Pacific
Multivalent Fluorescent Antibody (FA) Conjugate	MAT	Provided	5 ml	0	1	America
Leptospira Medium		Provided	283,250 ml	30,300 ml	2	America

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOAH 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 WOAH 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 WOAH Standards for the designated pathogen or disease?

No

TOR4: DIAGNOSTIC TESTING FACILITIES

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

Yes

NAME OF WOAH 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
BELGIUM		MAT	36	0
COLOMBIA		MAT	10	0
PANAMA		MAT	9	0
CURACAO		MAT	2	0
GUATEMALA		MAT	27	0
TRINIDAD AND TOBAGO		MAT	9	0

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

No

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

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:

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Hamond C, LeCount K, Putz EJ, Bayles DO, Camp P, Goris M G. A., van der Linden H, Stone NE, Schlater L, Sahl JW, Wagner DM, Nally JE. Bovine Leptospirosis Due to Persistent Renal Carriage of Leptospira borgpetersenii Serovar Tarassovi. Front. Vet. Sci. 2022, 9. DOI:

10.3389/fvets.2022.848664
Hamond C, Browne AS, de Wilde LH, Hornsby RL, LeCount K, Anderson T, Stuber T, Cranford HM, Browne SK, Blanchard G, Horner D, Taylor ML, Evans M, Angeli NF, Roth J, Bisgard KM, Salzer JS, Schafer IJ, Ellis BR, Alt DP, Schlater L, Nally JE, Ellis EM. Assessing rodents as carriers of pathogenic Leptospira species in the U.S. Virgin Islands and their risk to animal and public health. Sci Rep. 2022 Jan 21;12(1):1132. doi: 10.1038/s41598-022-04846-3. PMID: 35064157; PMCID: PMC8782869.

b) International conferences:

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Camila Hamond. International Forum on Public Health and Health Care Management. "Animal's carriers of Leptospira spp. and recreation area and farm environmental as risk for public and animal health". September 19-21, 2022.

c) National conferences:

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Rosenbaum M, Hill N, Maddison J, Benson H, Specht A, Paduch L, Krull M, Hertzel H, Stone NE, Wagner DM, Busch JD, Nally JE, Hamond C, LeCount K, Schlater L, Clegg J, Phipatanakul W, Skidmore AM, Bradfute SB, Cardenas Y, Thomas G, Ulrich J, McDaniel K, Leibler J, Galloway R, Weiner Z, Runstadler J. The Boston Urban Rat Study: Preliminary results on zoonosis and population structure of the synanthropic Norway rat (Rattus norvegicus). Annual Meeting American Public Health Association, Nov 2022, Boston, MA.
Sykes JE, Sebastian J, Reagan KL, Hamond C, LeCount K, Stuber T, Schlater L, Goris MGA, van der Linden H, Schreiber A, Yoshimoto S, Nally JE. Identification of serovar Canicola in association with an outbreak of canine leptospirosis in west Los Angeles, California: One Health implications. Annual Meeting American Public Health Association, Nov 2022, Boston, MA.
Anderson T, Hamond C, Haluch A, Toot K, LeCount K, Schlater L. Animals exposed to Leptospira spp. in the United States and Puerto Rico during 2018-2020. American Association of Veterinary Laboratory Diagnosticians. October 6-12, 2022, Minneapolis, MN.
LeCount K, Hamond C, Stuber T, Haluch A, Toot K, Anderson T, Bayles DO, Nally JE, Schlater L. Whole Genome Sequencing of Leptospira isolates from animals: a one health approach improving the biobank for future genomic research in diagnosis and control strategies. American Association of Veterinary Laboratory Diagnosticians. October 6-12, 2022, Minneapolis, MN.
Hamond C, LeCount K, Haluch A, Toot K, Anderson T, Nally JE, Schlater L. Use of lipL32 rt-PCR to identify animal carriers of Leptospira spp. American Association of Veterinary Laboratory Diagnosticians. October 6-12, 2022, Minneapolis, MN.
Clegg J, Stone N, Hamond C, Hertzel H, Busch J, Hornsby R, Sahl J, LeCount K, Schlater L, Hill N, Madison J, Nally JE, Rosenbaum M, Wagner DM. Limited dispersal among brown Norway rats in Boston, MA. In: 61st Annual Meeting of Arizona and Southern Nevada Branch of the American Society for Microbiology, April 16, 2022 and Northern Arizona University Undergraduate Expo & Symposium, April 22, 2022.

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

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www.aphis.usda.gov; email and internet
Review for journal: Journal of Microbiological Methods, Journal of Clinical Microbiology, Epidemiology and Infection, Equine Veterinary Education, Advances in Infectious Diseases, Plos Neglected Disease, Plos One, Tropical Animal Health and Production Microbial Pathogenesis, Journal of Applied Microbiology, BMC Microbiology, Cells and European Journal of Medical Research.
Editor: Co-editor in Special issue on "New Insights in Leptospirosis". Tropical Medicine and Infection Disease. 2022
Participation in master's and doctoral committees: thesis on leptospirosis. Bahia Federal University and Dourados University, Brazil.
Publication- Book Chapter: Camila Hamond and Franklin Riet-Correa. Chapter: Leptospirosis. Ruminant and Equine Infection Diseases – 3rd ed., Varela, Brazil, 2022.

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

17. Did your laboratory provide scientific and technical training to laboratory personnel from other WOAH 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-ISO 17025 Biological Field of Testing.pdf
ISO 17043	pdf	2526-06-ISO 17043 Proficiency Testing.pdf

19. Is your quality management system accredited?

Yes

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

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

Yes

TOR9: SCIENTIFIC MEETINGS

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

No

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

No

TOR10: NETWORK WITH WOAH REFERENCE LABORATORIES

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

No

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

No

25. Did you organise or participate in inter-laboratory proficiency tests with WOAH Reference Laboratories designated for the same pathogen?

No

26. Did your laboratory collaborate with other WOAH 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 WOAH REFERENCE LABORATORIES
Serotyping of leptospires with monoclonal	Serological typing of Leptospiral isolates	Leptospirosis Reference Center - The

antibodies		Netherlands

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

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

Yes

Purpose for inter-laboratory test comparisons1	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Region(s) of participating WOAH Member Countries
Leptospira Microscopic Agglutination Test	Organiser	36	America Asia and Pacific

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

Yes

Participated in multiple surveillance studies that greatly increased variety of tests and testing numbers this year. A post-doc is currently on staff that has increased testing as well.