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

<table>
<thead>
<tr>
<th>Diagnostic Test</th>
<th>Indicated in WOAH Manual (Yes/No)</th>
<th>Total number of test performed last year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indirect diagnostic tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct diagnostic tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptospirosis Microscopic Agglutination Test</td>
<td>Yes</td>
<td>3836</td>
</tr>
<tr>
<td></td>
<td></td>
<td>402</td>
</tr>
</tbody>
</table>

WOAH Reference Laboratory Reports Activities 2022
### Fluorescent Antibody Testing
- **Type**: MAT
- **Availability**: Yes
- **Tests Performed**: 122
- **Tests Supplied Internationally**: 0

### Isolation and Identification
- **Type**: Leptospirosis
- **Availability**: Yes
- **Tests Performed**: 30
- **Tests Supplied Internationally**: 0

### Real-Time LipL32 PCR
- **Type**: Leptospirosis
- **Availability**: Yes
- **Tests Performed**: 289
- **Tests Supplied Internationally**: 0

### Whole Genome Sequencing
- **Type**: Leptospirosis
- **Availability**: No
- **Tests Performed**: 33
- **Tests Supplied Internationally**: 0

### 16S and secY PCR
- **Type**: Leptospirosis
- **Availability**: Yes
- **Tests Performed**: 30
- **Tests Supplied Internationally**: 0

### Serogrouping
- **Type**: Leptospirosis
- **Availability**: Yes
- **Tests Performed**: 14
- **Tests Supplied Internationally**: 0

### MALDI Species Identification
- **Type**: Leptospirosis
- **Availability**: No
- **Tests Performed**: 3
- **Tests Supplied Internationally**: 0

### TOR2: REFERENCE MATERIAL

2. Did your laboratory produce or supply imported standard reference reagents officially recognised by WOAH?
- **Response**: No

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

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

4. Did your laboratory produce vaccines?
- **Response**: No

5. Did your laboratory supply vaccines to WOAH Members?
- **Response**: No

### TOR3: NEW PROCEDURES

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

<table>
<thead>
<tr>
<th>NAME OF WOAH MEMBER COUNTRY SEEKING ASSISTANCE</th>
<th>DATE</th>
<th>WHICH DIAGNOSTIC TEST USED</th>
<th>NO. SAMPLES RECEIVED FOR PROVISION OF DIAGNOSTIC SUPPORT</th>
<th>NO. SAMPLES RECEIVED FOR PROVISION OF CONFIRMATORY DIAGNOSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>BELGIUM</td>
<td>MAT</td>
<td>36</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>COLOMBIA</td>
<td>MAT</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PANAMA</td>
<td>MAT</td>
<td>9</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CURACAO</td>
<td>MAT</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>GUATEMALA</td>
<td>MAT</td>
<td>27</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TRINIDAD AND NOBAGO</td>
<td>MAT</td>
<td>9</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

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:

2


b) International conferences:


c) National conferences:


LeCount K, Hamond C, Stubert 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.


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

5 www.aphis.usda.gov; email and internet


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.

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

<table>
<thead>
<tr>
<th>Quality management system adopted</th>
<th>Certificate scan (PDF, JPG, PNG format)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ISO 17025</td>
<td>pdf</td>
<td>2526-01-ISO 17025 Biological Field of Testing.pdf</td>
</tr>
</tbody>
</table>

19. Is your quality management system accredited?
Yes

<table>
<thead>
<tr>
<th>Test for which your laboratory is accredited</th>
<th>Accreditation body</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leptospira Microscopic Agglutination Test</td>
<td>A2LA</td>
</tr>
<tr>
<td>Leptospira Fluorescent Antibody Testing</td>
<td>A2LA</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>TITLE OF THE PROJECT OR CONTRACT</th>
<th>SCOPE</th>
<th>NAME(S) OF RELEVANT WOAH REFERENCE LABORATORIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serotyping of leptospires with monoclonal</td>
<td>Serological typing of Leptospiral isolates</td>
<td>Leptospirosis Reference Center - The</td>
</tr>
</tbody>
</table>

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

Yes

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

**TOR12: EXPERT CONSULTANTS**

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

No

29. Additional comments regarding your report:

Yes

*Participants 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.*