WOAH Reference Laboratory Reports Activities 2023
Activities in 2023
This report has been submitted : 22 juillet 2024 14:35

Laboratory Information

| Name of disease (or topic) for which you are a designated WOAH Reference Laboratory: | Avian influenza and Newcastle disease |
| Address of laboratory: | “National Veterinary Services Laboratories USDA, APHIS, Veterinary Services 1920 Dayton Ave Ames, IA 50010 UNITED STATES OF AMERICA Office: 515.337.7301” |
| Tel: | +15153377551 |
| E-mail address: | mia.kim.torchetti@usda.gov |
| Website: | www.aphis.usda.gov/nvsl |
| Name (including Title) of Head of Laboratory (Responsible Official): | Dr. Suelee Robbe-Austerman, Director, NVSL |
| Name (including Title and Position) of WOAH Reference Expert: | Mia Kim Torchetti, Director, Diagnostic Virology Laboratory, NVSL |
| 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>
<th>Nationally</th>
<th>Internationally</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indirect diagnostic tests</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>This testing conducted at the state level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct diagnostic tests</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nationally</td>
<td>Internationally</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real-time RT-PCR (matrix, fusion)</td>
<td>499</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Virus isolation (total samples)</td>
<td>2693</td>
<td>18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Molecular pathotype (Sanger)</td>
<td>191</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In vivo pathotype (ICPI)</td>
<td>23</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whole genome sequencing</td>
<td>41</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<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 antigen</td>
<td>Hemagglutination inhibition</td>
<td>both</td>
<td>12</td>
<td>16</td>
<td>2</td>
<td>ARGENTINA, COLOMBIA,</td>
</tr>
</tbody>
</table>
Reference antisera | Hemagglutination inhibition | both | 26 | 80 | 3 | ARGENTINA, EL SALVADOR, HONDURAS, BELIZE, CHILE, HONDURAS, UNITED STATES OF AMERICA, 
Positive amplification controls | rRT-PCR (matrix and fusion targets) | both | 1 | 1 | 3 | BELIZE, HONDURAS, 
Extraction controls | rRT-PCR | both | 55 | 35 | 2 | BELIZE, HONDURAS, 
Proficiency panels | rRT-PCR | both | 2230 | 0 | 1 | UNITED STATES OF AMERICA, 

4. Did your laboratory produce vaccines?  
No  
5. Did your laboratory supply vaccines to WOAH Members?  
Not applicable

**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?  
No  
11. Did your laboratory provide expert advice in technical consultancies on the request of a 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  
13. In exercising your activities, have you identified any regulatory research needs* relevant for WOAH?  
No

**TOR6: EPIZOEOLOGICAL DATA**

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

IF THE ANSWER IS YES, PLEASE PROVIDE DETAILS OF THE DATA COLLECTED:

"NVSL works with another unit within USDA for distribution of analyzed data.


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

IF THE ANSWER IS YES, PLEASE PROVIDE DETAILS OF THE DATA COLLECTED:
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:

4

29th Annual meeting of the National Reference Laboratories for avian influenza and Newcastle disease Parma, Italy 2-3 October 2023

c) National conferences:

7

October 2023: United States Animal Health Association and American Association of Veterinary Laboratory Diagnosticians Annual Meeting
February 2023: Live Bird Market Working Group Meeting

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

3

Abstract: Alexander Morris ER, Torchetti MK, Killian ML, Suarez D, Dimitrov KM. Development of a Multiplex rRT-PCR for Simultaneous Detection of all Pigeon-adapted Type 1 Avian Paramyxoviruses and first detection of Asian lineage viruses in the US. Oct 2023 American Association of Veterinary Diagnostic Laboratories, National Harbor, MD
Participated with international regionalization evaluation for Newcastle disease

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

<table>
<thead>
<tr>
<th>Quality management system adopted</th>
<th>Certificate scan (PDF, JPG, PNG format)</th>
<th>Accreditation body</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Association for Laboratory Accreditation (A2LA)</td>
<td>pdf</td>
<td>American Association for Laboratory Accreditation (A2LA) ISO 17025 Biological Testing</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>Hemagglutination-inhibition</td>
<td>American Association for Laboratory Accreditation (A2LA) ISO 17025 Biological Testing</td>
</tr>
<tr>
<td>Real-Time RT-PCR</td>
<td>American Association for Laboratory Accreditation (A2LA) ISO 17025 Biological Testing</td>
</tr>
<tr>
<td>Virus Isolation</td>
<td>American Association for Laboratory Accreditation (A2LA) ISO 17025 Biological Testing</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?

Yes

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

Yes

<table>
<thead>
<tr>
<th>NETWORK/DISEASE</th>
<th>ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC)</th>
<th>NO. PARTICIPANTS</th>
<th>PARTICIPATING WOAH REF. LABS</th>
</tr>
</thead>
<tbody>
<tr>
<td>n/a</td>
<td>n/a</td>
<td>1</td>
<td>n/a</td>
</tr>
</tbody>
</table>

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>Studies in Poultry Transmission, Airborne Spread and Mitigation Tools for Avian Influenza and Newcastle Disease in the USA</td>
<td>Interagency Agreement</td>
<td>USDA ARS National Poultry Center Southeast Poultry Research Laboratory</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>Purpose for inter-laboratory test comparisons</th>
<th>Role of your reference laboratory (organizer/participant)</th>
<th>No. participating laboratories</th>
<th>Name of the Test</th>
<th>WOAH Member Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administered by NVSL and required to conduct official testing in the U.S.; shipped internationally by request</td>
<td>Administered by NVSL and required to conduct official testing in the U.S.</td>
<td>223</td>
<td>rRT-PCR</td>
<td>UNITED STATES OF AMERICA,</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

During 2023, some testing and activities were impacted by the ongoing H5 2.3.4.4b HPAI outbreak affecting wild birds and poultry with sporadic spillovers into mammals; vesicular stomatitis virus New Jersey in California; and the ongoing vigilance for SARS-CoV-2 in animals.

Q1: Serologic testing is largely conducted at the state level; all APMV-1 are routinely characterized for monitoring.