WOAH Reference Laboratory Reports Activities 2023

Activities in 2023

This report has been submitted: 1 juillet 2024 16:52

Laboratory Information

Name of disease (or topic) for which you are a designated WOAH Reference Laboratory: African horse sickness

Address of laboratory: No. 100 Old Soutpan Road, Onderstepoort, 0110, Gauteng Province, South Africa

Tel: +27-12 529 91 17

E-mail address: LubisiA@arc.agric.za

Website: https://www.arc.agric.za/

Name (including Title) of Head of Laboratory (Responsible Official): Dr. Arshad Mather - Acting Senior Manager Research: Animal Health and Protection

Name (including Title and Position) of WOAH Reference Expert: Dr. Baratang Alison Lubisi - Research Team Manager: Diagnostic Services

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 |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Indirect diagnostic tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ELISA</td>
<td>Yes</td>
<td>Nationally: 1153, Internationally: 63</td>
</tr>
<tr>
<td>Direct diagnostic tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCR</td>
<td></td>
<td>Nationally: 436, Internationally: 54</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 (non-WOAH-approved) and/or other diagnostic reagents to WOAH Members?

No

4. Did your laboratory produce vaccines?

Not applicable

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?

Yes

<table>
<thead>
<tr>
<th>NAME OF THE NEW TEST OR DIAGNOSTIC METHOD DEVELOPED</th>
<th>DESCRIPTION AND REFERENCES (PUBLICATION, WEBSITE, ETC.)</th>
</tr>
</thead>
</table>
A new antigen was prepared by expression of a domain of the AHSV-VP7 expressed in bacteria. The antigen is stable for up to 15 months on pre-coated plates with both Stabilcoat and Superblock as stabiliser/blocker. The use of this antigen in an indirect ELISA is being evaluated to potentially replace the baculovirus expressed antigen. In addition, an inhibition ELISA, incorporating an AHS mouse monoclonal was developed. Thus far 300 positive sera were tested, and full validation will follow.

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>ESWATINI</td>
<td>2023-04-17</td>
<td>Indirect ELISA qRT-PCR</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>ESWATINI</td>
<td>2023-04-20</td>
<td>Indirect ELISA</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>ESWATINI</td>
<td>2023-05-08</td>
<td>qRT-PCR</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>ESWATINI</td>
<td>2023-05-26</td>
<td>Indirect ELISA qRT-PCR</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>ESWATINI</td>
<td>2023-06-29</td>
<td>Indirect ELISA</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>ESWATINI</td>
<td>2023-12-30</td>
<td>qRT-PCR</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>ESWATINI</td>
<td>2023-12-31</td>
<td>qRT-PCR</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>MAURITIUS</td>
<td>2023-04-14</td>
<td>Indirect ELISA</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>MAURITIUS</td>
<td>2023-04-19</td>
<td>qRT-PCR</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>MAURITIUS</td>
<td>2023-11-20</td>
<td>Indirect ELISA qRT-PCR</td>
<td>38</td>
<td>21</td>
</tr>
<tr>
<td>MOZAMBIQUE</td>
<td>2023-06-20</td>
<td>qRT-PCR</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>MOZAMBIQUE</td>
<td>2023-07-20</td>
<td>qRT-PCR</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>NAMIBIA</td>
<td>2023-03-03</td>
<td>qRT-PCR</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>ZAMBIA</td>
<td>2023-05-05</td>
<td>qRT-PCR</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>ZAMBIA</td>
<td>2023-11-16</td>
<td>qRT-PCR</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>ESWATINI</td>
<td>2023-04-11</td>
<td>Indirect ELISA</td>
<td>1</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
13. In exercising your activities, have you identified any regulatory research needs* relevant for WOAH?
No

**TOR6: EPIZOOLOGICAL 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:

Sera were tested to determine African horse sickness seropositivity and seroprevalence in equines. Viruses were isolated from field samples and typed using serological methods. In addition, the genomes of circulating viruses were sequenced to determine genetic changes.
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:**

A peer reviewed scientific article on culicoides midges was published.

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:


b) International conferences:


c) National conferences:

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

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**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>ISO17025</td>
<td>SANAS Accreditation Certificate</td>
<td>South African National Accreditation System (SANAS)</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>Indirect ELISA qRT-PCR</td>
<td>South African National Accreditation System (SANAS)</td>
</tr>
</tbody>
</table>

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

Yes

The laboratory adheres to good laboratory practices and has standard operating procedures (SOPs) and fit for purpose equipment and facilities to ensure biosecurity.
biosafety, and biocontainment of pathogens.

**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>African horse sickness</td>
<td>Participant</td>
<td>85</td>
<td>1. Pirbright (United Kingdom) 2. EU Reference Laboratory for African horse sickness and Bluetongue, Algete, Spain.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>PURPOSE OF THE PROFICIENCY TESTS</th>
<th>ROLE OF YOUR REFERENCE LABORATORY (ORGANISER/ PARTICIPANT)</th>
<th>NO. PARTICIPANTS</th>
<th>PARTICIPATING WOAH REF. LABS/ ORGANISING WOAH REF. LAB.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality assurance of African horse sickness laboratory assays.</td>
<td>Participant</td>
<td>85</td>
<td>1. Pirbright (United Kingdom) 2. EU Reference Laboratory for African horse sickness and Bluetongue, Algete, Spain.</td>
</tr>
</tbody>
</table>

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?
No

**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?
No

**TOR12: EXPERT CONSULTANTS**

28. Did your laboratory place expert consultants at the disposal of WOAH?
No
29. Additional comments regarding your report:
Yes

*The laboratory receives few international samples for African horse sickness diagnostic purposes. A plea was made to the Southern African Development Community (SADC) through the WOAH Sub-Regional Representation for Southern Africa, for veterinary officials to submit samples for diagnostic purposes. The request also extended to research organisations for collaboration on the disease.*