OIE Reference Laboratory Reports Activities

Activities in 2014

This report has been submitted: 2015-01-16 21:46:52

| Name of disease (or topic) for which you are a designated OIE Reference Laboratory: | African swine fever |
| Address of laboratory: | Agricultural Research Council Private Bag X05 Onderstepoort 0110 SOUTH AFRICA |
| Tel.: | +27-12 529 9585 |
| Fax: | +27-12 529 9543 |
| E-mail address: | HeathL@arc.agric.za |
| Website: | http://www.arc.agric.za |
| Name (including Title) of Head of Laboratory (Responsible Official): | Dr. Livio Heath |
| Name (including Title and Position) of OIE Reference Expert: | Dr. Baratang Alison Lubisi Head of Virology |
| Which of the following defines your laboratory? Check all that apply: | Governmental Research |
ToR 1: To use, promote and disseminate diagnostic methods validated according to OIE Standards

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 OIE 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>National</td>
</tr>
<tr>
<td>ELISA</td>
<td>Yes</td>
<td>689</td>
</tr>
<tr>
<td>Direct diagnostic tests</td>
<td></td>
<td>National</td>
</tr>
<tr>
<td>Virus Isolation</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>PCR</td>
<td></td>
<td>33</td>
</tr>
</tbody>
</table>

ToR 2: To develop reference material in accordance with OIE requirements, and implement and promote the application of OIE Standards. To store and distribute to national laboratories biological reference products and any other reagents used in the diagnosis and control of the designated pathogens or disease.

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

No

3. Did your laboratory supply standard reference reagents (non OIE-approved) and/or other diagnostic reagents to OIE Member Countries?

No

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to OIE Member Countries?

No
ToR 3: To develop, standardise and validate, according to OIE Standards, new procedures for diagnosis and control of the designated pathogens or diseases

6. Did your laboratory develop new diagnostic methods validated according to OIE Standards for the designated pathogen or disease?
   No

7. Did your laboratory develop new vaccines according to OIE Standards for the designated pathogen or disease?
   No

ToR 4: To provide diagnostic testing facilities, and, where appropriate, scientific and technical advice on disease control measures to OIE Member Countries

8. Did your laboratory carry out diagnostic testing for other OIE Member Countries?
   Yes

<table>
<thead>
<tr>
<th>Name of OIE Member Country seeking assistance</th>
<th>Date (month)</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>NAMIBIA</td>
<td>18/12</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

9. Did your laboratory provide expert advice in technical consultancies on the request of an OIE Member Country?
   No

ToR 5: To carry out and/or coordinate scientific and technical studies in collaboration with other laboratories, centres or organisations

10. Did your laboratory participate in international scientific studies in collaboration with OIE Member Countries other than the own?
    No

ToR 6: To collect, process, analyse, publish and disseminate epizootiologic data relevant to the designated pathogens or diseases

11. Did your Laboratory collect epizootiological data relevant to international disease control?
No

12. Did your laboratory disseminate epizootiological data that had been processed and analysed?

No

13. What method of dissemination of information is most often used by your laboratory?

(Indicate in the appropriate box the number by category)

a) Articles published in peer-reviewed journals: 3
   Investigation into the Epidemiology of African Swine Fever Virus at the Wildlife - Domestic Interface of the

   Vaccine Potential of Two Previously Uncharacterized African Swine Fever Virus Isolates from Southern Africa and

   First molecular assessment of the African swine fever virus status of Ornithodoros ticks from Swaziland Carin I.
   pages. doi: 10.4102/ojvr.v81i1.846

b) International conferences: 6
   C.I. Boshoff, A.D.S. Bastos and L Heath. Introduction to African swine fever and the role of Ornithodoros ticks in
   maintaining ASF virus in South Africa.

   Van Heerden J, Malan K and Heath L. Molecular characterization of African Swine Fever Virus isolates originating
   from outbreaks in South Africa. 8th International Ticks and Tick-borne pathogens and 12th biennial Society for
   Tropical Veterinary Medicine Conference. 24-28 August 2014.

   Hendriks CBS, Heath L and Martiz-Olivier C. Towards understanding the host-vector-pathogen interactions of
   African swine fever virus in domestic suids. 8th International Ticks and Tick-borne pathogens and 12th biennial
   Society for Tropical Veterinary Medicine Conference. 24-28 August 2014.

   during infection. 8th International Ticks and Tick-borne pathogens and 12th biennial Society for Tropical
   Veterinary Medicine Conference. 24-28 August 2014.

   Mthombeni R, Mans BJ, Heath L and van Heerden J. The development and partial validation of an OpTSGP1 ELISA.
   8th International Ticks and Tick-borne pathogens and 12th biennial Society for Tropical Veterinary Medicine Conference. 24-28 August 2014.

   Boshoff CI, Bastos ADS and Heath L. Experimental infection of domestic pigs with African swine fever virus to
   investigate transmission cycles. 8th International Ticks and Tick-borne pathogens and 12th biennial Society for
   Tropical Veterinary Medicine Conference. 24-28 August 2014.

c) National conferences: 0

d) Other: 7
   (Provide website address or link to appropriate information)
   I. Workshops

   The laboratory organised the 2nd GARA (Global African Swine Fever Research Alliance) Scientific Workshop held in
   Pretoria, South Africa, between 10 and 14 November 2014.

   Contributions to oral presentations by the laboratory were:
   i. Can Thymidine Kinase gene predict the genotypes and pathogenicities of African swine fever virus?
   ii. Epidemiology of African swine fever in South Africa from 2000 - 2011
   iii. Occurence and molecular characterisation of African swine fever virus in Ornithodoros ticks from selected
   game parks in South Africa
iv. Multi-locus typing of African swine fever viruses from domestic pigs in Uganda using PACT
v. Vaccine development for African swine fever

II. Training
Dr. Chetty co-ordinated the presentation of ARC - OVI and IDRC funded courses on Transboundary Animal Diseases, including ASF, in August 2014. Focus was on field recognition of the diseases, biosafety and biosecurity, and an update on the laboratory diagnosis and control. The seminars were presented over a period of 4 weeks by researchers at the institute. Approximately 100 delegates from the South African National and Provincial Veterinary Services attended.

A similar course funded by the Belgian government was presented in November, and it was attended by 25 veterinary officials.

**ToR 7: To provide scientific and technical training for personnel from OIE Member Countries**
*To recommend the prescribed and alternative tests or vaccines as OIE Standards*

14. Did your laboratory provide scientific and technical training to laboratory personnel from other OIE Member Countries?

Yes

a) Technical visits: 0  
b) Seminars: 0  
c) Hands-on training courses: 1  
d) Internships (>1 month): 0

<table>
<thead>
<tr>
<th>Type of technical training provided (a, b, c or d)</th>
<th>Country of origin of the expert(s) provided with training</th>
<th>No. participants from the corresponding country</th>
</tr>
</thead>
<tbody>
<tr>
<td>c</td>
<td>Namibia</td>
<td>2</td>
</tr>
</tbody>
</table>

**ToR 8: To maintain a system of quality assurance, biosafety and biosecurity relevant for the pathogen and the disease concerned**

15. Does your laboratory have a Quality Management System certified according to an International Standard?

Yes

<table>
<thead>
<tr>
<th>Quality management system adopted</th>
<th>Certificate scan (PDF, JPG, PNG format)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISO17025</td>
<td>Schedule of Approval-TADP tests.pdf</td>
</tr>
</tbody>
</table>

16. Is your laboratory accredited by an international accreditation body?

No

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

(See Manual of Diagnostic Tests and Vaccines for Terrestrial Animals 2014, Chapter 1.1.3a)

**ToR 9: To organise and participate in scientific meetings on behalf of the OIE**

18. Did your laboratory organise scientific meetings on behalf of the OIE?
   No

19. Did your laboratory participate in scientific meetings on behalf of the OIE?
   No

**ToR 10: To establish and maintain a network with other OIE Reference Laboratories designated for the same pathogen or disease and organise regular inter-laboratory proficiency testing to ensure comparability of results**

20. Did your laboratory exchange information with other OIE Reference Laboratories designated for the same pathogen or disease?
   No

21. Was your laboratory involved in maintaining a network with OIE Reference Laboratories designated for the same pathogen or disease by organising or participating in proficiency tests?
   Yes

<table>
<thead>
<tr>
<th>Purpose of the proficiency tests: ¹</th>
<th>Role of your Reference Laboratory (organiser/participant)</th>
<th>No. participants</th>
<th>Participating OIE Ref. Labs/ organising OIE Ref. Lab.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test harmonisation</td>
<td>Participant</td>
<td></td>
<td>All OIE Reference Laboratories for ASF</td>
</tr>
</tbody>
</table>

¹ validation of a diagnostic protocol: specify the test; quality control of vaccines: specify the vaccine type, etc.

22. Did your laboratory collaborate with other OIE Reference Laboratories for the same disease on scientific research projects for the diagnosis or control of the pathogen of interest?
   No
**ToR 11: To organise inter-laboratory proficiency testing with laboratories other than OIE Reference Laboratories for the same pathogens and diseases to ensure equivalence of results**

23. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than OIE Reference Laboratories for the same disease?

No

*Note: See Interlaboratory test comparisons in: Laboratory Proficiency Testing at: http://www.oie.int/en/our-scientific-expertise/reference-laboratories/proficiency-testing see point 1.3*

**ToR 12: To place expert consultants at the disposal of the OIE**

24. Did your laboratory place expert consultants at the disposal of the OIE?

No

25. Additional comments regarding your report:

I. Quality management

All ASF diagnostic tests are approved by the Department of Agriculture Forestry and Fisheries (DAFF)'s ISO 17025 based system, with a few modifications. The laboratory will apply for SANAS accreditation in early 2015.