

OIE Reference Laboratory Reports Activities

Activities in 2021

This report has been submitted : 2022-01-20 10:40:06

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	African horse sickness
Address of laboratory:	Agricultural Research Council-Onderstepoort Veterinary Institute Private Bag X05 Onderstepoort 0110 SOUTH AFRICA
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Name (including Title) of Head of Laboratory (Responsible Official):	Dr Misheck Mulumba
Name (including Title and Position) of OIE Reference Expert:	Dr Baratang Alison Lubisi
Which of the following defines your laboratory? Check all that apply:	Governmental

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

Diagnostic Test	Indicated in OIE Manual (Yes/No)	Total number of test performed last year	
		Nationally	Internationally
Indirect diagnostic tests			
772	Yes	719	80
Direct diagnostic tests			
606	Yes	490	131

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

Name of OIE Member Country seeking assistance	Date (month)	No. samples received for provision of diagnostic support	No. samples received for provision of confirmatory diagnoses
MAURITIUS	12/04/2021; 05/07/2021; 02/08/2021; 08/02/2021; 14/02/2021; 17/04/2021; 10/07/2021; 04/08/2021; 24/12/2021	80	108
NAMIBIA	14/01/2021; 5/2/2021; 10/03/2021; 18/03/2021; 26/03/2021; 01/04/2021; 14/04/2021; 19/04/2021; 20/04/2021; 22/04/2021; 03/05/2021; 21/05/2021; 21/06/2021	0	14
ESWATINI	29/03/2021	0	6
ZIMBABWE	23/04/2021	0	3

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 epizootiological data relevant to the designated pathogens or diseases

11. Did your Laboratory collect epizootiological data relevant to international disease control?

Yes

If the answer is yes, please provide details of the data collected:

The laboratory conducted diagnostic and surveillance tests for African horse sickness in the year 2021 for South Africa, Mauritius, Swaziland, Namibia and Eswatini

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

Yes

If the answer is yes, please provide details of the data collected:

i). Diagnostic reports were sent to relevant veterinary officials ii). Eight research articles were published in peer reviewed journals

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: 8

i). de Beer, C.J., Boikanyo, S.N.B., Venter, G.J., Mans, B.J. 2021. The applicability of spectrophotometry for the assessment of blood meal volume in artificially fed *Culicoides imicola* in South Africa. *Medical and Veterinary Entomology* 35, 141-146.

ii). De Beer, C.J., Boikanyo, S.N.B., Venter, G.J. 2021. Assessment of the applicability of a modified Hemotek® system for the in vitro feeding of field collected *Culicoides* species (Diptera: Ceratopogonidae) in South Africa. *Medical and Veterinary Entomology* 35, 177-186.

iii). de Beer, C.J., Boikanyo, S.N.B., Venter, G.J. (2021) Evaluation of light emitting diode suction traps for the collection of livestock associated *Culicoides* species in South Africa. *Medical and Veterinary Entomology* 35, 408-416.

iv). Goffredo, M., Quaglia, M., De Ascentis, M., Gerardo d'Alessio, S., Federici, V., Conte, A., Venter, G.J. 2021. The absence of abdominal pigmentation in livestock associated *Culicoides* following artificial blood feeding and the epidemiological implication thereof for arbovirus surveillance. *Pathogens* 10, 1571.

v). Pilgrim, J., Siozios S., Baylis, M., Venter, G., Garros, C., Hurst, G.D. 2021. *Cardinium* symbiosis as a potential confounder of mtDNA based phylogeographic inference in *Culicoides imicola* (Diptera: Ceratopogonidae), a vector of veterinary viruses. *Parasites and Vectors* 14, 100.

vi). Snyman, J., Venter, G.J., Venter, M. 2021. An Investigation of *Culicoides* (Diptera: Ceratopogonidae) as Potential Vectors of Medically and Veterinary Important Arboviruses in South Africa. *Viruses* 13, 1978.

- vii). Snyman, J., Snyman, L.P., Labuschagne, K., Venter, G.J., Venter, M. 2021. The utilisation of CytB and COI barcodes for the identification of bloodmeals and Culicoides species (Diptera: Ceratopogonidae) reveals a variety of novel wildlife hosts in South Africa. Acta Tropica 219, 105913.
- viii). 1. Mdlulwa, Z., Masemola, M., Lubisi, B.A & Chaminuka, P. (2021): The financial burden of African Horse Sickness: a case of the European Union trade ban on South Africa's horse industry, Agrekon. <https://doi.org/10.1080/03031853.2021.1975549>

b) International conferences: 0

c) National conferences: 0

d) Other:
(Provide website address or link to appropriate information) 0

**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?

No

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?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)
ISO17025	2020-2022 SANAS certificate.pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
AHS Indirect ELISA	ISO17025
AHS Real Time RT-PCR	ISO17025
AHS Hemi-Nested RT-PCR	

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, Chapter 1.1.4)

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?

Yes

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

Purpose of the proficiency tests: ¹	Role of your Reference Laboratory (organiser/ participant)	No. participants	Participating OIE Ref. Labs/ organising OIE Ref. Lab.
AHS Serological Test Harmonisation	Participant	Several	EU Reference Laboratory for AHS and BT
AHS RT-PCR Test Harmonisation	Participant	Several	EU Reference Laboratory for AHS and BT
AHS Serotyping Test Harmonisation	Participant	Several	EU Reference Laboratory for AHS and BT

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:

The OIE AHS Reference Laboratory situated at ARC-OVR in South Africa sent 7 AHS virus isolates and 25 diagnostic blood samples to Laboratoire de Santé Animale, JRU Virology (ANSES) in France, as part of a joint research project aimed at isolating and characterising AHS viruses and devising control measures.

The laboratory also entered into a diagnostic and research collaboration with the Veterinary Research Section, Department of Animal Resources, Ministry of Municipality & Environment- Qatar, for all diseases that the ARC-OVR is OIE reference laboratory for.