

OIE Reference Laboratory Reports Activities

Activities in 2020

This report has been submitted : 2021-01-19 11:58:58

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	African horse sickness
Address of laboratory:	Agricultural Research Council Private Bag X05 Onderstepoort 0110 SOUTH AFRICA
Tel.:	+2712 529 9117
Fax:	+2712 529 9418
E-mail address:	lubisia@arc.agric.za
Website:	http://www.arc.agric.za
Name (including Title) of Head of Laboratory (Responsible Official):	Dr. Misheck Mulumba Senior Manager Research: Animal Health and Protection
Name (including Title and Position) of OIE Reference Expert:	Dr. Baratang Alison Lubisi Senior Research Veterinarian
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		Nationally	Internationally
ELISA	Yes	1267	192
VNT (Antiserum Typing)	Yes	21	0
Direct diagnostic tests		Nationally	Internationally
Virus isolation	Yes	49	0
qRT-PCR	Yes	234	26
Sequencing	No	0	11
VNT (Virus Typing)	Yes	3	0

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
BOTSWANA	October	0	5
ESWATINI	February	0	1
ESWATINI	May	0	1
MAURITIUS	July	36	0
MAURITIUS	October	62	0
MAURITIUS	October	68	0
MAURITIUS	November	24	0
NAMIBIA	January	0	1
THAILAND	July	0	23
MAURITIUS	November	0	12

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:
Diagnostic data from national and international specimens submitted to ARC-OVR

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:
Diagnostic test reports were submitted to the senders of the specimens and the Department of Agriculture, Land Reform and Rural Development.

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: 2

1). C. J. De Beer, S. N. B. Boikanyo, G. J. Venter and B. Mans 2020. The applicability of spectrophotometry for the assessment of blood meal volume in artificially fed *Culicoides imicola* in South Africa. *Medical and Veterinary Entomology* (2020), doi: 10.1111/mve.12473

2). C. J. De Beer, S. N. B. Boikanyo and G. J. Venter. 2020. Assessment of the Hemotek® system for the in vitro feeding of field-collected *Culicoides imicola* (Diptera: Ceratopogonidae) in South Africa. *Medical and Veterinary Entomology* (2020), doi: 10.1111/mve.12484

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
ELISA	SANAS
qRT-PCR	SANAS
hnRT-PCR	SANAS

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?

Yes

Title of event	Date (mm/yy)	Location	Role (speaker, presenting poster, short communications)	Title of the work presented
4th OIE Webinar on AHS Eradication Strategy	April 2020	On-line	Attended	Not applicable

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

Purpose of the proficiency tests: ¹	Role of your Reference Laboratory (organiser/participant)	No. participants	Participating OIE Ref. Labs/ organising OIE Ref. Lab.
Assay harmonisation and quality assurance	Participant	Several	EU Reference Laboratory for African Horse Sickness and Bluetongue, Algete, Spain

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?

Yes

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

Purpose for inter-laboratory test comparisons ¹	No. participating laboratories	Region(s) of participating OIE Member Countries
Assay harmonisation and quality assurance	Several (VETQAS Proficiency Test Scheme)	<input checked="" type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East

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:

South Africa went into level 5 Covid-19 related lockdown from 26 March 2020 and the lockdown remains to date. Even though the levels and severity of the associated restrictions decreased towards the end of the year, level 3 was reinstated in December 2020. All research, diagnostic, quality assurance, training, and other African Horse Sickness related activities were negatively affected, with others completely halted.

Nonetheless, the mentoring of students, farmer training, and national research collaborations continued:

1. Training

Drs Labuschagne and Taioe (Affiliation?) presented training to farmers and extension officers on insects of veterinary importance and Mr Bakkes (Affiliation?) presented on tick identification and distribution.

KyD Training Programme: 2-5 October 2020 (Deon Bakkes; Karien Labuschagne; Moeti Taioe)

KyD Training Programme: 16-17 October 2020 (Deon Bakkes; Karien Labuschagne)

KyD Training Programme: 23-26 October 2020 (Deon Bakkes; Moeti Taioe)

2. Student mentoring (In progress)

a). Master of Science (MSc) with the University of South Africa (UNISA) - THE INFLUENCE OF CLIMATE ON CULICOIDES AND OTHER STOCK ASSOCIATED BLOOD FEEDING ARTHROPODS IN THE EASTERN CAPE PROVINCE (Grahamstown). Student: Ayanda Mtyapi; Co-study leader: Dr. K. Labuschagne

b). Master of Veterinary Science (MVSc) with the Equine Research Centre, Faculty of Veterinary Science, University of Pretoria - CULICOIDES COLLECTION AND HOST PREFERENCES. Student: Lisa Penzhorn; Study leader: Dr.G.J. Venter.

c) Master of Technology (MTech) with Tshwane University of Technology - EVALUATION OF FLINDERS TECHNOLOGY ASSOCIATES (FTA) CARDS FOR ANTIBODY DETECTION AND SEROTYPING OF AFRICAN HORSE SICKNESS VIRUS.

Student: Thabisile Tshabalala; Supervisor: Dr. B.A Lubisi.

3. National collaborations

a). Evaluation of Rothamsted suction traps for the collection of *Culicoides* midges - a collaboration with the University of Pretoria, Gauteng Province.

b). Monitoring of *Culicoides* for the export of horses - a collaboration with Kenilworth Quarantine Station in Cape Town, Western Cape Province.

c) Serosurveillance studies of African horse sickness in domestic dogs and evaluation of serological tests for use in this species - a collaboration with the University of Pretoria, Faculty of Veterinary Science.

4. Other

a). Manuscripts on *Culicoides* vectors are regularly evaluated for a number of International Journals, e.g. *Parasites and Vectors*, *Medical and Veterinary Entomology*, *Acta Tropica*.

b). Field surveys for *Culicoides* are done on a regular basis.