World Organisation for Animal Health

Antoinette Van Schalkwyk - - SOUTH_AFRICA

WOAH Reference Laboratory Reports Activities 2024

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LABORATORY INFORMATION

***Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:**	Lumpy skin disease
***Address of laboratory:**	Agricultural Research Council-Onderstepoort Veterinary Institute, Private Bag X5, Onderstepoort, 0110, Pretoria
***Tel:**	+27125299225
***E-mail address:**	vanschalkwykA1@arc.agric.za
Website:	www.arc.agric.za
***Name (including Title) of Head of Laboratory (Responsible Official):**	Dr. Alison Lubisi, Acting Senior Manager, ARC-OVI
***Name (including Title and Position) of WOAH Reference Expert:**	Dr. Antoinette van Schalkwyk, Senior Researcher
***Which of the following defines your laboratory? Check all that apply:**	Research agency

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	
Indirect diagnostic tests		Nationally	Internationally
VNT	Yes	40	0
SNT	Yes	144	0
Direct diagnostic tests		Nationally	Internationally

PCR	No	14	0

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?

No

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOAH Members?

No

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?

Yes

Name of the new vaccine developed	Description and References (Publication, website, etc)
Vaccine batch testing for Onderstepoort Biological Product SOC Ltd. Batches: 477.1 (Report 29 Feb 2024)	Onderstepoort Biological Products SOC Ltd Private Bag X07 Onderstepoort 0110 South Africa www.obpvaccines.co.za

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 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?

Yes

Title of the study	Duration	Purpose of the study	Partners (Institutions)	WOAH Member Countries involved other than your country
Capacity development			National Diagnostic Center for Exotic Animal	

towards LSD detection and control in China	2024 - 2026	Twinning Project	Disease, China Animal Health and Epidemiology Center (CAHEC)	CHINA (PEOPLE'S REP. OF)

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:
We continued to collect, isolate and characterize new field isolates through complete genome sequencing and phylogenetically comparing them with sequences from GenBank. This is of importance for the stability determination of the viral genome in light of the concerns associated with the recombinants detected in the field in the northern hemisphere. Characterization of historic isolate are also continuing, for the same reasons. Besides cattle, isolates were also characterised from wildlife, such as springbok antelope.

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:
Review of the genetically different LSDV strains identified since 1954.

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

Van Schalkwyk, A., Kara, P., Last, R. D., Romito, M., & Wallace, D. B. (2024). Detection and Genome Sequencing of Lumpy Skin Disease Viruses in Wildlife Game Species in South Africa. Viruses, 16(2), 172.

Boshra, H., Blyth, G. A., Truong, T., Kroeker, A., Kara, P., Mather, A., ... & Babiuk, S. (2024). The Development of a Multivalent Capripoxvirus-Vectored Vaccine Candidate to Protect against Sheeppox, Goatpox, Peste des Petits Ruminants, and Rift Valley Fever. Vaccines, 12(7), 805.

b) International conferences:

2

Dr. van Schalkwyk presented: "The good, the bad and the bumpy history of lumpy skin disease vaccines", at the 39th World Veterinary Association Congress. 16 April 2024. Cape Town, South Africa

Dr van Schalkwyk presented at the WOAH Regional Workshop on Vector Borne diseases in Asia and the Pacific (19-20 September 2024) on Lumpy skin disease (19 September 2024, online).

c) National conferences:

2
Mr. Kara presented: "Development and evaluation of a bivalent lumpy skin disease vaccine and vaccine vector", at Virology Africa on 16 April 2024. Stellenbosch, South Africa.

Dr. van Schalkwyk presented "Complete Genome Sequence Analysis of The Neethling Lumpy Skin Disease Virus Prototype, Vaccine, and Recombinant Vaccine like Strains" at Virology Africa on 16 April 2024. Stellenbosch, South Africa

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

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

17. Did your laboratory provide scientific and technical training to laboratory personnel from other WOAH Members?

Yes

a) Technical visit : 1

b) Seminars : 0

c) Hands-on training courses: 0

d) Internships (>1 month) 0

Type of technical training provided (a, b, c or d)	Country of origin of the expert(s) provided with training	No. participants from the corresponding country
A	CHINA (PEOPLE'S REP. OF)	2

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO 17025	Certificate of accreditation issued by the South African National Accreditation System (SANAS) on 31 May 2022 (Expires: 30 May 2027)	V0001-11-2023.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Various diseases listed in the attached document, but currently not for LSD. The LSD tests are performed in the same laboratories under the same accreditation system.	South African National Accreditation System (SANAS)

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

Yes

We have been following the recommendations as set out in the Terrestrial Manual.

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?

No

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

No

25. Did you organise or participate in inter-laboratory proficiency tests with WOAH Reference Laboratories designated for the same pathogen during the past 2 years?

Yes

Purpose of the proficiency test:	Role of your Reference Laboratory (organiser/ participant)	No. participating Laboratories	Participating WOAH Ref. Labs/ organising WOAH Ref Lab
Molecular identification of LSDV	Organizer	2	The Pirbright Institute, UK Sciensano, Exotic and vector-borne diseases, Belgium

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 during the past 2 years?

No

As part of the WOAH Twinning project an inter-laboratory proficiency panel would be send to CAHEC, China. The process has been initiated, but the panel has not yet been shipped to China.

TOR12: EXPERT CONSULTANTS

28. Did your laboratory place expert consultants at the disposal of WOAH?

No

29. Additional comments regarding your report:

No