

WOAH Reference Laboratory Reports Activities 2024

This report has been submitted: 4 février 2025 06:18

LABORATORY INFORMATION

*Name of disease (or topic) for which you are a designated WOA Reference Laboratory:	Foot and mouth disease
*Address of laboratory:	Onderstepoort Veterinary Institute, 100 Old Soutpan Road, Pretoria South Africa
*Tel:	+27-12 529 95.01
*E-mail address:	HeathL@arc.agric.za
Website:	www.arc.agric.za
*Name (including Title) of Head of Laboratory (Responsible Official):	Dr Livio Heath
*Name (including Title and Position) of WOA Reference Expert:	Dr Livio Heath, Research Team Manager
*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 WOA Manual (Yes/No)	Total number of test performed last year	
		Nationally	Internationally
Indirect diagnostic tests			
FMDV ELISA (SPCE)	Yes	124458	480
FMDV NSP ELISA	Yes	14835	180
FMDV VNT	Yes	85	0

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Direct diagnostic tests		Nationally	Internationally
FMDV PCR	Yes	636	0
FMDV Virus Isolation	Yes	32	0
FMDV Molecular Typing	Yes	107	0

TOR2: REFERENCE MATERIAL

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

No

3. Did your laboratory supply standard reference reagents (nonWOAH-approved) and/or other diagnostic reagents to WOA Members?

No

4. Did your laboratory produce vaccines?

Yes

5. Did your laboratory supply vaccines to WOA Members?

Yes

Vaccine name	Amount supplied nationally (ml, mg)	Amount supplied nationally (ml, mg)	Name of recipient WOA Members
Onderstepoort FMD Vaccine	13 100 ml	13 100 ml	SOUTH AFRICA

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 WOA Standards for the designated pathogen or disease?

Yes

Name of the new test or diagnostic method developed	Description and References (Publication, website, etc.)
FMD PCR	Internal Validation Report.

8. Did your laboratory develop new vaccines for the designated pathogen or disease?

No

9. Did your laboratory validate vaccines according to WOA Standards for the designated pathogen or disease?

No

TOR4: DIAGNOSTIC TESTING FACILITIES

10. Did your laboratory carry out diagnostic testing for other WOA Members?

Yes

Name of WOA Member Country seeking assistance	Date	Which diagnostic test used	No. samples received for provision of diagnostic support	No. samples received for provision of confirmatory diagnoses
ESWATINI	2024-10-01	FMD Serological Tests	51	0
NAMIBIA	2024-09-01	FMD Serological Tests	440	0

11. Did your laboratory provide expert advice in technical consultancies on the request of an WOA Member?

No

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

12. Did your laboratory participate in international scientific studies in collaboration with WOA Members other than the own?

No

13. In exercising your activities, have you identified any regulatory research needs* relevant for WOA?

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:

Epizootiological data were collected on the FMDV outbreaks in South Africa. Activities included serological surveillance and phylogenetic characterisation of virus strains. Epizootiological data was also collected on the involvement of small ruminants on the maintenance and dissemination of FMDV in South Africa.

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:

Reports were submitted to the South African Department of Agriculture, Land Reform and Rural Development. The results of the studies were presented at scientific conferences and scientific publications.

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:

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Seoke L, Fosgate GT, Opperman PA, Malesa RP, Lazarus DD, Sirdar MM, Heath L. 2023. Optimization of a foot-and-mouth disease virus Southern African Territories-specific solid-phase competitive ELISA for small ruminant serum samples. *J Vet Diagn Invest.* 2023 Dec 18:10406387231218202. doi: 10.1177/10406387231218202.

Sirdar M.M., Fosgate G.T., Blignaut B., Heath L., Lazarus D.D., Mampane R.L., Rikhotso O.B., Du Plessis B., Gummow B. A comparison of risk factor investigation and experts' opinion elicitation analysis for identifying foot-and-mouth disease (FMD) high-risk areas within the FMD protection zone of South Africa

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(2007-2016). *Prev Vet Med.* 2024.

226:106192. doi: 10.1016/j.prevetmed.2024.106192. Epub 2024 Mar 30. PMID: 38564991.

Wubshet A.K., Weir G.M., Teklue T., Luoyi Z., Bayasgalan C., Tserendorj A. Jinjin L., Heath L., Sun, Y., Ding Y-Z., Wang W., Zaberezhny A.D., Liu Y., Zhang J. Foot and Mouth

Disease Vaccine Efficacy in Africa: A Systematic Review and Meta-Analysis. *Front. Vet. Sci.* 2024. Volume 11 - 2024 | doi: 10.3389/fvets.2024.1360256.

b) International conferences:

0

c) National conferences:

0

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

0

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

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

No

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	South African National Accreditation System	V0034.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
FMD ELISA (SPCE) FMD NSP FMD PCR	South African National Accreditation System

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

Yes

Compliance with international Biosafety and Security practices are monitored and certified by the Department of Agriculture of South Africa.

TOR9: SCIENTIFIC MEETINGS

21. Did your laboratory organise scientific meetings related to the pathogen in question on behalf of WOA?

No

22. Did your laboratory participate in scientific meetings related to the pathogen in question on behalf of WOA?

No

TOR10: NETWORK WITH WOA REFERENCE LABORATORIES

23. Did your laboratory exchange information with other WOA Reference Laboratories designated for the same pathogen or disease?

Yes

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

Yes

NETWORK/DISEASE	ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC)	NO. PARTICIPANTS	PARTICIPATING WOA REF. LABS
WOA Reference Laboratory network for FMD.	Participant	21	All WOA and FAO reference laboratories for FMD.

25. Did you organise or participate in inter-laboratory proficiency tests with WOA 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 WOA Ref. Labs/organising WOA Ref Lab
Validation of a diagnostic protocol	Participant	-	The Pirbright Institute, UK.

26. Did your laboratory collaborate with other WOA 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 WOA Reference Laboratories for the same pathogen during the past 2 years?

No

Inter-laboratory proficiency testing scheme involving non-WOA Reference Laboratories in Africa is planned for 2025.

TOR12: EXPERT CONSULTANTS

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

Yes

Kind of consultancy	Location	Subject (facultative)
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WOAH Ad Hoc Group for FMDV	Paris, France	Evaluating applications by members states for WOAH recognition of disease status.
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29. Additional comments regarding your report:

Yes

Support to other member states is being curtailed by the cost of shipping samples to the reference laboratory. Several countries in Southern Africa have developed diagnostic capacity for FMD limiting the number of samples received by the Onderstepoort Veterinary Institute for FMD diagnosis and surveillance.