

WOAH Reference Laboratory Reports Activities 2023

Activities in 2023

This report has been submitted : 12 juillet 2024 08:56

Laboratory Information

Name of disease (or topic) for which you are a designated WOAHO Reference Laboratory:	Foot and mouth disease
Address of laboratory:	Onderstepoort Veterinary Institute, 100 Old Soutpan Road, Pretoria South Africa
Tel.:	+27 12 529 9501
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 WOAHO 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 WOAHO Manual (Yes/No)	Total number of test performed last year	
		Nationally	Internationally
Indirect diagnostic tests			
FMDV ELISA (SPCE)		76264	240
FMDV NSP ELISA		12505	26
FMDV VNT		153	0
Direct diagnostic tests			
FMDV PCR		175	0
FMDV Virus Isolation		25	0
FMDV Molecular Typing		49	0

TOR2: REFERENCE MATERIAL

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

No

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

No

4. Did your laboratory produce vaccines?

Yes

5. Did your laboratory supply vaccines to WOAHO Members?

Yes

VACCINE NAME	AMOUNT SUPPLIED NATIONALLY	AMOUNT SUPPLIED NATIONALLY (ML, MG)	NAME OF RECIPIENT WOAHS 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 WOAHS 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 WOAHS Standards for the designated pathogen or disease?

No

TOR4: DIAGNOSTIC TESTING FACILITIES

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

Yes

NAME OF WOAHS 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	2023-03-20	FMDV ELISA (SPCE)	66	0
ESWATINI	2023-10-24	FMDV NSP ELISA	26	0
ZIMBABWE	2023-03-22	FMDV ELISA (SPCE)	174	0

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

No

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

No

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

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:

6

Li, Q., Wubshet, A.K., Wang, Y., Heath, L., Zhang, J. B and T Cell Epitopes of the Incursionary Foot-and-Mouth Disease Virus Serotype SAT2 for Vaccine. 2023. *Development. Viruses*, 15 (3), art. no. 797.

Gobiye, M., Fosgate, G.T., Heath, L., Lazarus, D.D., Seoke, L., Opperman, P.A. 2023. Preliminary validation of a single-spot version of a solid-phase competition ELISA for the detection of southern African territories foot-and-mouth disease serotype exposure in goats. *Small Ruminant Research*, 224, art. no. 106982.

Horsington, J., Abbeloos, E., Kassimi, L.B., Boonsuya Seeyo, K., Capozzo, A.V., Chepkwony, E., Eblé, P., Galdo-Novo, S., Gizaw, D., Gouverneur, L., Grazioli, S., Heath, L., Hudelet, P., Hyera, J.M.K., Illott, M., King, A., Lefebvre, D.J., Mackay, D., Metwally, S., Mwiine, F.N., Nfon, C.K., Park, M.K., Pituco, E.M., Rosso, F., Simon, F., Ullaramu, H.G., Vermeij, P., Vosloo, W., King, D.P. 2023. Application of the Nagoya Protocol to veterinary pathogens: concerns for the control of foot-and-mouth disease. *Front Vet Sci*. 10:1271434.

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 (2007-2016). *Prev Vet Med*. 2024. 226:106192. doi: 10.1016/j.prevetmed.2024.106192. Epub 2024 Mar 30. PMID: 38564991.

Wubshet A.K., Weird 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 WOAHA 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	SANAS	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

TOR9: SCIENTIFIC MEETINGS

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

No

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

No

TOR10: NETWORK WITH WOAHP REFERENCE LABORATORIES

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

Yes

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

Yes

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

25. Did you organise or participate in inter-laboratory proficiency tests with WOAHP Reference Laboratories designated for the same pathogen?

Yes

PURPOSE OF THE PROFICIENCY TESTS: 1	ROLE OF YOUR REFERENCE LABORATORY (ORGANISER/ PARTICIPANT)	NO. PARTICIPANTS	PARTICIPATING WOAHP REF. LABS/ ORGANISING WOAHP REF. LAB.
Validation of a diagnostic protocol	Participating Laboratory	-	The Pirbright Institute, UK.

26. Did your laboratory collaborate with other WOAHP 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 WOAHP Reference Laboratories for the same pathogen?

No

TOR12: EXPERT CONSULTANTS

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

Yes

KIND OF CONSULTANCY	Location	SUBJECT (FACULTATIVE)
WOAHP Ad Hoc Group for FMDV	Paris, France	Evaluating applications by members states for WOAHP recognition of disease status.

29. Additional comments regarding your report:

No