

WOAH Reference Laboratory Reports Activities 2023

Activities in 2023

This report has been submitted : 12 juillet 2024 08:18

Laboratory Information

Name of disease (or topic) for which you are a designated WOAHO Reference Laboratory:	African swine fever
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			
ASF Serology		2754	668
Direct diagnostic tests			
ASF PCR		514	0
ASF Genotyping		154	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?

Not applicable

5. Did your laboratory supply vaccines to WOAHO Members?

Not applicable

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
MOZAMBIQUE	2023-04-20	ASF Serology	268	0
ZIMBABWE	2023-12-31	ASF Serology	400	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?

Yes

Title of the study	Duration	PURPOSE OF THE STUDY	PARTNERS (INSTITUTIONS)	WOAHS MEMBER COUNTRIES INVOLVED OTHER THAN YOUR COUNTRY
Unraveling the Effect of Contact Networks & Socio-Economic Factors in the Emergence of Infectious Diseases at the Wild-Domestic Interface	4 years	Comprehensively assess the pig contact networks, pig management and socioeconomic factors, tick involvement in ASFV transmission, ASF seroprevalence and viral diversity in the sylvatic and domestic cycles	University of California, Davis CIRAD University of Maputo University of Pretoria	FRANCE MADAGASCAR MOZAMBIQUE UNITED STATES OF AMERICA ZIMBABWE
Interrelationship of warthogs, Ornithodoros ticks and African swine fever in South Africa	4 years	Comprehensively assess the geographical expansion of the ASFV sylvatic cycle in South Africa	University of Pretoria, Kansas State University	UNITED STATES OF AMERICA
African swine fever virus (ASFV) genome sequencing	4 years	To determine the complete genome sequences of ASFV circulating in Russia	Reference Laboratory for African Swine Fever Virus, FGBI "Federal Centre for Animal Health, Russia	RUSSIA

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 ASFV outbreak in South Africa in 2023. Activities included serological surveillance and phylogenetic characterisation of virus strains. Epizootiological data was also collected on the geographical expansion of the ASFV sylvatic cycle in South Africa. Phylogenetic characterisation of virus strains circulating in 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:

3

Jori, F., Bastos, A., Boinas, F., Van Heerden, J., Heath, L., Jourdan-Pineau, H., Martinez-Lopez, B., Pereira de Oliveira, R., Pollet, T., Quembo, C., Rea, K., Simulundu, E., Taraveau, F., Penrith, M.-L. 2023. An Updated Review of *Ornithodoros* Ticks as Reservoirs of African Swine Fever in Sub-Saharan Africa and Madagascar. *Pathogens*, 12 (3), art. no. 469.

Mthombeni RF, Bastos AD, van Schalkwyk A, van Emmenes J, Heath L. 2023. Phylogenomic Comparison of Seven African Swine Fever Genotype II Outbreak Viruses (1998-2019) Reveals the Likely African Origin of Georgia 2007/1. *Pathogens*. 12(9):1129.

Kabuuka, T, Mulindwa, H., Bastos, A.D.S., van Heerden, J., Heath, L., Fasina, F.O. 2024. Retrospective Multi-Locus Sequence Analysis of African Swine Fever Viruses by "PACT" Confirms Co-Circulation of Multiple Outbreak Strains in Uganda. *Animals*, 14, 71.

b) International conferences:

0

c) National conferences:

0

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 WOAHA Members?

Yes

a) Technical visit : 0

b) Seminars : 0

c) Hands-on training courses: 14

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
C	BENIN	2
C	BOTSWANA	2
C	MALI	2
C	MOROCCO	2
	NIGERIA	

C		2
C	SENEGAL	2
C	TANZANIA	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	SANAS	V0034.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
ASF Serology	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?

Yes

Title of event	Date (mm/yy)	Location	Role (speaker, presenting poster, short communications)	Title of the work presented
FAO Global Consultation on ASF Control	2023-12-12	Rome, Italy	Speaker	Laboratory diagnostic capacities - peace time and outbreak time
GF-TADs for Africa African Swine Fever (ASF) Standing Group of Experts (SGE) for Africa	2023-07-01	Abidjan, Cote d'Ivoire	Speaker	Purposes of surveillance : disease control or disease intelligence? Enhanced surveillance and diagnostic capabilities for ASF control. Building a regional ASF laboratories network.

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 African Swine fever	Coordination of activities of international, regional and national ASF reference laboratories.	7	CSIRO Australian Centre for Disease Preparedness, Australia National Surveillance and Research Center for Exotic Animal Diseases, China, Universidad Complutense de Madrid (UCM), Spain, The Pirbright Institute, UK

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

Yes

ROLE OF YOUR REFERENCE LABORATORY	PARTICIPATING WOAHP REF. LABS/
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PURPOSE OF THE PROFICIENCY TESTS: 1	(ORGANISER/ PARTICIPANT)	NO. PARTICIPANTS	ORGANISING WOAHP REF. LAB.
Validation of a diagnostic protocol	Participant	2	VETQAS Proficiency Testing

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?

Yes

TITLE OF THE PROJECT OR CONTRACT	SCOPE	NAME(S) OF RELEVANT WOAHP REFERENCE LABORATORIES
Evaluation of validation application for diagnosis of ASF.	Assisting with the evaluation of validation reports of commercial ASF diagnostic assay.	The Pirbright Institute.

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?

No

29. Additional comments regarding your report:

No