

# WOAH Reference Laboratory Reports Activities 2022

## Activities in 2022

This report has been submitted : 24 avril 2023 18:08

### Laboratory Information

<b>Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:</b>	African swine fever
<b>Address of laboratory:</b>	Foreign Animal Disease Diagnostic Laboratory, National Veterinary Services Laboratories, USDA-APHIS-VS-D&B, Plum Island Animal Disease Center, PO Box 848, Greenport, NY 11944, USA
<b>Tel.:</b>	+1 631-323-3287
<b>E-mail address:</b>	ping.wu@usda.gov
<b>Website:</b>	
<b>Name (including Title) of Head of Laboratory (Responsible Official):</b>	Muzafar Makhdoomi, Associate Director of Foreign Animal Disease Diagnostic Laboratory
<b>Name (including Title and Position) of WOAH Reference Expert:</b>	Ping Wu, Veterinary Medical Officer
<b>Which of the following defines your laboratory? Check all that apply:</b>	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 WOAH Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally
ASF ELISA	Yes	6189	921
ASF IP	Yes	47	23
ASF IFA	Yes	8	0
Direct diagnostic tests		Nationally	Internationally

ASF PCR	Yes	9221	1500
ASF VI	Yes	17	5
ASF Sequencing	No	0	>150

## TOR2: REFERENCE MATERIAL

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

No

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

No

4. Did your laboratory produce vaccines?

Not applicable

5. Did your laboratory supply vaccines to WOAHP Members?

Not applicable

## TOR3: NEW PROCEDURES

6. Did your laboratory develop new diagnostic methods for the designated pathogen or disease?

Yes

7. Did your laboratory validate diagnostic methods according to WOAHP Standards for the designated pathogen or disease?

Yes

NAME OF THE NEW TEST OR DIAGNOSTIC METHOD DEVELOPED	DESCRIPTION AND REFERENCES (PUBLICATION, WEBSITE, ETC.)
In-house immunoperoxidase test (IPT)	full NVSL QA approval
Multiplex qRT-PCR for ASF and CSF	full NVSL QA approval
Aggregate oral fluid validation for ASF diagnosis	Goonewardene KB, Chung CJ, Goolia M, Blakemore L, Fabian A, Mohamed F, Nfon C, Clavijo A, Dodd KA, Ambagala A. Evaluation of oral fluid as an aggregate sample for early detection of African swine fever virus using four independent pen-based experimental studies. Transbound Emerg Dis. 2021 Sep;68(5):2867-2877. doi: 10.1111/tbed.14175. Epub 2021 Jun 17. PMID: 34075717.
Blood and spleen swab validation for ASF diagnosis	full NVSL QA approval
Validation of 2 LFD for ASF detection	Report to NVSL
Whole genome sequencing of ASFV and Rift Valley fever virus on Nanopore and Illumina platforms for more comprehensive characterization genomic epidemiology of disease outbreaks	Lakin SM, O'Donnell VK, Xu L, Barrette RW, Barnabei J, Núñez R, Holland R, Faburay B, Robbe-Austerman S. Whole genome sequencing and molecular epidemiology of the 2021 African swine fever virus outbreak in the Dominican Republic. Transbound Emerg Dis. 2022 Oct 31. doi: 10.1111/tbed.14751. Epub ahead of print. PMID: 36314984.

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

No

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

No

## TOR4: DIAGNOSTIC TESTING FACILITIES

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

No

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?

Yes

Title of the study	Duration	PURPOSE OF THE STUDY	PARTNERS (INSTITUTIONS)	WOAH MEMBER COUNTRIES INVOLVED OTHER THAN YOUR COUNTRY
Global Partnership for Animal and Zoonotic Disease Surveillance (GPAZDS)	N/A	Diagnostic surveillance-related studies on African swine fever, Classical swine fever, Foot-and-Mouth Disease, Rift Valley fever, Japanese Encephalitis, Crimean-Congo hemorrhagic fever, Marburg/Filoviruses, Peste des petit ruminants (PPR)	Veterinary Diagnostic and Research Laboratories in The Philippines, The Gambia, Ghana, Senegal, Nigeria, Uganda, Cameroon	CAMEROON
African Center of Excellence for Genomics of Infectious Diseases (located in Nigeria)	N/A	Genomic sequencing and surveillance of ASFV in West Africa	African Center of Excellence for Genomics of Infectious Diseases (located in Nigeria)	NIGERIA
Implement of diagnostic sequencing and genomic surveillance of ASFV in Hispaniola		Diagnosis and genomic surveillance of ASFV	Dominican Republic Haiti	DOMINICAN (REP.)

## 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:

Whole genome sequencing was conducted on field specimens from the Dominican Republic ASF outbreak, information including animal location and testing data were also assembled.

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:

Whole genome sequencing data were submitted into GenBank and a manuscript analysing the data was published as a peer-reviewed publication.

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:

1

Lakin SM, O'Donnell VK, Xu L, Barrette RW, Barnabei J, Núñez R, Holland R, Faburay B, Robbe-Austerman S. Whole genome sequencing and molecular epidemiology of the 2021 African swine fever virus outbreak in the Dominican Republic. *Transbound Emerg Dis*. 2022 Oct 31. doi: 10.1111/tbed.14751. Epub ahead of print. PMID: 36314984.

b) International conferences:

1

Antagnoli CM, Holland R, Robbe-Austerman S, Vargas J, Griselda L, Schumann K, Barnabei J, Gonzalez W, Duerr C, Morales P, Soltero F, Shere J. African swine fever detection and response in Hispaniola: USDA APHIS' support to an insular response.

c) National conferences:

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 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, ISO 17043, ISO 9001		2526.04 (Biological - NVSL PIADC) Issues 09-30-2021 Valid Until 06-30-2023.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
ASF Ab-ELISA, IP, PCR, VI	American Association for Laboratory Accreditation (A2LA)

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

Yes

Biosafety and biosecurity management program

## **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. Are you a member of a network of WOA Reference Laboratories designated for the same pathogen?

Not applicable (Only WOA Reference Laboratory designated for the disease)

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

Yes

PURPOSE OF THE PROFICIENCY TESTS: 1	ROLE OF YOUR REFERENCE LABORATORY (ORGANISER/ PARTICIPANT)	NO. PARTICIPANTS	PARTICIPATING WOA REF. LABS/ ORGANISING WOA REF. LAB.
ASF Interlaboratory Comparison Test, CISA-INIA	Participant		CISA-INIA

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?

Not applicable (Only WOA Reference Laboratory designated for the disease)

## **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?

Yes

Purpose for inter-laboratory test comparisons <sup>1</sup>	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Region(s) of participating WOA Member Countries

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Maintain Diagnostic performance quality in state diagnostic laboratories	Organizer	52	America
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## ***TOR12: EXPERT CONSULTANTS***

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

No

29. Additional comments regarding your report:

No