World Organisation for Animal Health

Mia Kim Torchetti - - UNITED_STATES_OF_AMERICA

WOAH Reference Laboratory Reports Activities 2024

This report has been submitted: 1 février 2025 03:42

LABORATORY INFORMATION

***Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:**	Swine influenza
***Address of laboratory:**	"National Veterinary Services Laboratories, National Centers for Animal Health, USDA, APHIS, Veterinary Services 1920 Dayton Ave Ames, IA 50010 UNITED STATES OF AMERICA Office: 515.337.7301"
***Tel:**	+15153377551
***E-mail address:**	mia.kim.torchetti@usda.gov
Website:	www.aphis.usda.gov/nvsl
***Name (including Title) of Head of Laboratory (Responsible Official):**	Dr. Suelee Robbe-Austerman, Director, NVSL
***Name (including Title and Position) of WOAH Reference Expert:**	Mia Kim Torchetti, Director, Diagnostic Virology Laboratory, NVSL
***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 WOAH Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally
Hemagglutination-inhibition (HI)	Yes	12	0
Direct diagnostic tests		Nationally	Internationally
Whole genome sequencing	Yes	620	0

Repository propagation	No	210	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?

Yes

Type of reagent available	Related diagnostic test	Produced/ provide	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	No. of recipient WOAH Member Countries	Country of recipients
Reference antigen/antisera	Hemagglutination inhibition (HI)	both	10ml	2ml	1	PERU,
Reference/ surveillance viruses	several	both	35ml	0	1	UNITED STATES OF AMERICA,
Proficiency test panels (avian and swine)	PCR	both	2256 ml	48 ml	3	ARGENTINA, CHILE, JAPAN,

4. Did your laboratory produce vaccines?

Not applicable

5. Did your laboratory supply vaccines to WOAH 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 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?

No

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?

No

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:
"USDA Swine Surveillance: NVSL works with another unit within USDA for distribution of analyzed data. https://www.aphis.usda.gov/livestock-poultry-disease/swine/influenza-a-virus "

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:
"USDA Swine Surveillance: NVSL works with another unit within USDA for distribution of analyzed data. https://www.aphis.usda.gov/livestock-poultry-disease/swine/influenza-a-virus "

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

Arruda, Bailey, et al. "Divergent pathogenesis and transmission of highly pathogenic avian influenza a (H5N1) in swine." Emerging Infectious Diseases 30.4 (2024): 738.

b) International conferences:

4

c) National conferences:

1

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

3
GenBank deposits: approximately 4000 gene sequences. https://www.ncbi.nlm.nih.gov/genbank/
World Organisation for Animal Heath and Food and Animal Organization (OFFLU) Swine influenza virus technical activity teleconferences and WHO Vaccine Compsition meeting preparation

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

17. Did your laboratory provide scientific and technical training to laboratory personnel from other WOAH 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)	
American Association for Laboratory Accreditation (A2LA)	pdf	A2LA Biological Testing Certificate_2024.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Hemagglutination-inhibition Neuraminidase-inhibition Real-Time RT-PCR Virus Isolation	A2LA; ISO17025

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

Yes

Biosafety, Security and Incident Response Plan and Biological Risk Assessments: NVSL-MAN-0018 and NVSL-WI-1207

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?

Yes

NETWORK/DISEASE	ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC)	NO. PARTICIPANTS	PARTICIPATING WOAH REF. LABS
OFFLU	Participant, committee member	11	https://www.offlu.org/index.php/participating-laboratories/25

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?

No

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?

Yes

Title of the project or contract	Scope	Name(s) of relevant WOAH Reference Laboratories
Genetic characteristics of zoonotic influenza viruses	Data contributions to OFFLU for the twice yearly WHO Vaccine Composition Consultations	WOAH/FAO Reference Laboratories for Animal Influenza

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?

Yes

Purpose for inter-laboratory test comparisons1	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the test	WOAH Member Countries
Administered by NVSL and required for program participation, shipped internationally by request	Administered by NVSL and required to conduct official testing in the U.S.	293	PCR	ARGENTINA, CHILE, JAPAN, UNITED STATES OF AMERICA,

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

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Yes

During 2024, some testing and many activities were impacted by the ongoing H5 2.3.4.4b HPAI outbreak affecting wild birds and poultry with sporadic spilllovers into mammals as well as the spillover event in dairy which required onboarding new tests for new sample types. "The national swine surveillance program is anonymous and based upon PCR and sequencing; serology is not typically conducted at NVSL.

Q27 Proficiency testing rounds for approved-NAHLN laboratories are offered every other year. 2024 PT has been completed, out of cycle PTs were provided as needed. "