OIE Reference Laboratory Reports Activities

Activities in 2021

This report has been submitted : 2022-01-29 18:42:42

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Swine influenza
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Name (including Title) of Head of Laboratory (Responsible Official):	Dr. Suelee Robbe-Austerman, Director, National Veterinary Services Laboratories
Name (including Title and Position) of OIE Reference Expert:	To Be Decided; refer questions to Mia Kim Torchetti DVM MS PhD Director, Diagnostic Virology Laboratory, National Veterinary Services Laboratories, APHIS USDA
Which of the following defines your laboratory? Check all that apply:	Governmental

ToR 1: To use, promote and disseminate diagnostic methods validated according to OIE Standards

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 OIE Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally
Direct diagnostic tests		Nationally	Internationally
Real-time RT-PCR (IAV, subtyping)	Yes	29	0
Virus Isolation	Yes	3	0
Sequencing	Yes	473	0
Repository propagation	Yes	405	0

ToR 2: To develop reference material in accordance with OIE requirements, and implement and promote the application of OIE Standards.
To store and distribute to national laboratories biological reference products and any other reagents used in the diagnosis and control of the designated pathogens or disease.

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

No

3. Did your laboratory supply standard reference reagents (non OIE-approved) and/or other diagnostic reagents to OIE Member Countries?

Yes

Type of reagent available	Related diagnostic test	Produced/ provide	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	No. of recipient OIE Member Countries	Region of recipients
Reference antigen	HI H1, H3	Provided	0	0	0	☐Africa ☐Americas ☐Asia and Pacific ☐Europe ☐Middle East
Reference antisera	several	Provided	26	0	1	☐Africa ☒Americas ☐Asia and Pacific ☐Europe ☐Middle East
Reference/ surveillance viruses	several	4050 mL (405 x 10 mL)	99 ml (165 x 0.6 mL)	0	1	☐Africa ☒Americas ☐Asia and Pacific ☐Europe ☐Middle East
Positive amplification controls	rRT-PCR	Provided	0.05	0	1	☐Africa ☒Americas ☐Asia and Pacific ☐Europe ☐Middle East
Proficiency test panels (avian and swine)	rRT-PCR	Both	2650	10	2	☐Africa ☒Americas ☐Asia and Pacific ☐Europe ☐Middle East

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to OIE Member Countries?

No

ToR 3: To develop, standardise and validate, according to OIE Standards, new procedures for diagnosis and control of the designated pathogens or diseases

6. Did your laboratory develop new diagnostic methods validated according to OIE Standards for the designated pathogen or disease?

No

7. Did your laboratory develop new vaccines according to OIE Standards for the designated pathogen or disease?

No

ToR 4: To provide diagnostic testing facilities, and, where appropriate, scientific and technical advice on disease control measures to OIE Member Countries

8. Did your laboratory carry out diagnostic testing for other OIE Member Countries?

No

9. Did your laboratory provide expert advice in technical consultancies on the request of an OIE Member Country?

No

ToR 5: To carry out and/or coordinate scientific and technical studies in collaboration with other laboratories, centres or organisations

10. Did your laboratory participate in international scientific studies in collaboration with OIE Member Countries other than the own?

No

ToR 6: To collect, process, analyse, publish and disseminate epizootiological data relevant to the designated pathogens or diseases

11. Did your Laboratory collect epizootiological data relevant to international disease control?

No

If the answer is no, please provide a brief explanation of the situation:
NVSL works with another unit within USDA for distribution of analyzed data.

12. Did your laboratory disseminate epizootiological data that had been processed and analysed?

No

If the answer is no, please provide a brief explanation of the situation:
NVSL works with another unit within USDA for distribution of analyzed data.

13. What method of dissemination of information is most often used by your laboratory? (Indicate in the appropriate box the number by category)

a) Articles published in peer-reviewed journals: 2
octoFLUshow: an Interactive Tool Describing Spatial and Temporal Trends in the Genetic Diversity of Influenza A Virus in U.S. Swine. Arendsee ZW, Chang J, Hufnagel DE, Markin A, Janas-Martindale A, Vincent AL, Anderson TK. Microbiol Resour Announc. 2021 Dec 16;10(50):e0108121. doi: 10.1128/MRA.01081-21. Epub 2021 Dec 16. PMID: 34913720

b) International conferences: 4

c) National conferences: 1

d) Other:
(Provide website address or link to appropriate information) 3
USDA Swine Surveillance:
https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/swine-disease-information/influenza-a-virus

GenBank deposits: approximately 2200 sequences deposited in GenBank in 2021.
https://www.ncbi.nlm.nih.gov/genbank/

ToR 7: To provide scientific and technical training for personnel from OIE Member Countries
To recommend the prescribed and alternative tests or vaccines as OIE Standards

14. Did your laboratory provide scientific and technical training to laboratory personnel from other OIE Member Countries?

No

ToR 8: To maintain a system of quality assurance, biosafety and biosecurity relevant for the pathogen and the disease concerned

15. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)
ISO 17025 Biological Testing	2021 A2LA Certificate.pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Hemagglutination-inhibition	American Association for Laboratory Accreditation (A2LA)
Neuraminidase-inhibition	A2LA
Real-Time RT-PCR	A2LA
Virus Isolation	A2LA

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

Yes

(See Manual of Diagnostic Tests and Vaccines for Terrestrial Animals, Chapter 1.1.4)

ToR 9: To organise and participate in scientific meetings on behalf of the OIE

18. Did your laboratory organise scientific meetings on behalf of the OIE?

No

19. Did your laboratory participate in scientific meetings on behalf of the OIE?

No

ToR 10: To establish and maintain a network with other OIE Reference Laboratories designated for the same pathogen or disease and organise regular inter-laboratory proficiency testing to ensure comparability of results

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

Yes

21. Was your laboratory involved in maintaining a network with OIE Reference Laboratories designated for the same pathogen or disease by organising or participating in proficiency tests?

No

22. Did your laboratory collaborate with other OIE Reference Laboratories for the same disease on scientific research projects for the diagnosis or control of the pathogen of interest?

No

ToR 11: To organise inter-laboratory proficiency testing with laboratories other than OIE Reference Laboratories for the same pathogens and diseases to ensure equivalence of results

23. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than OIE Reference Laboratories for the same disease?

Yes

Note: See Interlaboratory test comparisons in: Laboratory Proficiency Testing at: http://www.oie.int/en/our-scientific-expertise/reference-laboratories/proficiency-testing see point 1.3

Purpose for inter-laboratory test comparisons[1]	No. participating laboratories	Region(s) of participating OIE Member Countries
Administered by NVSL and required for program participation, shipped internationally by request	59	☐Africa ☒Americas ☒Asia and Pacific ☐Europe ☐Middle East

ToR 12: To place expert consultants at the disposal of the OIE

24. Did your laboratory place expert consultants at the disposal of the OIE?

No

25. Additional comments regarding your report:

The Diagnostic Virology Laboratory of the National Veterinary Services Laboratories is undergoing restructuring and will be identifying new subject matter experts. The COVID-19 pandemic has impacted national and international laboratory activities and sample receipt.

The national swine surveillance program is anonymous and based upon PCR and sequencing; serology is not typically conducted at NVSL.