

OIE Reference Laboratory Reports Activities

Activities in 2019

This report has been submitted : 2020-01-16 23:09:22

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Swine influenza
Address of laboratory:	USDA, APHIS, VS, DB National Veterinary Services Laboratories 1920 Dayton Avenue, P.O. Box 844 Ames, Iowa 50010 UNITED STATES OF AMERICA
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Website:	www.aphis.usda.gov/nvsl
Name (including Title) of Head of Laboratory (Responsible Official):	Dr. Karl Hochstein, Acting Director, National Veterinary Services Laboratories, DB, VS, APHIS, USDA
Name (including Title and Position) of OIE Reference Expert:	TBD, Diagnostic Virology Laboratory, National Veterinary Services Laboratories, DB, VS, 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	
		Nationally	Internationally
Indirect diagnostic tests			
Hemagglutination-inhibition (HI) antibody	yes	0	0
Direct diagnostic tests			
Real-time RT-PCR (IAV, subtyping)	yes	28	0
Virus Isolation	yes	13	0
Sequencing	yes	280	0
Repository propagation	yes	285	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	18.4 m	4 ml	1	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East
Reference antisera	several	provided	27 ml	24 ml	3	<input type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East
Reference/ surveillance viruses	several	2850 ml produced / provided	39.6 ml	1.8 ml	2	<input type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Positive amplification controls	rRT-PCR (matrix)	provided	0 ml	0 ml	0	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East
Proficiency test panels (avian and swine)	rRT-PCR	both	4,056 ml	24 ml	2	<input type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> 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:

USDA has a separate group that is responsible for this type of analysis and distribution of 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:
USDA has a separate group that is responsible for this type of analysis and distribution of 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

1. Aerosol transmission from infected swine to ferrets of a swine H3N2 virus collected from an agricultural fair and associated with human variant infections. Bryan S. Kaplan, J. Brian Kimble, Jennifer Chang, Tavis K. Anderson, Phil Gauger, Alicia Janas-Martindale, Mary Lea Killian, Andrew S. Bowman, Amy L. Vincent (preparing for submission)
2. Antigenic evolution of H3N2 influenza A viruses in swine in the United States from 2012 to 2016. Bolton MJ et al. Influenza Other Respir Viruses. 2019 Jan;13(1):83-90. doi: 10.1111/irv.12610. Epub 2018 Oct 7.
3. Regional patterns of genetic diversity in swine influenza A viruses in the United States from 2010 to 2016. Walia R et al. Influenza Other Respir Viruses. 2019 May;13(3):262-273. doi: 10.1111/irv.12559. Epub 2019 Feb 13.

b) International conferences: 4

1. 2019 February, Paris, France, OFFLU Swine Influenza Virus Technical Meeting

c) National conferences: 1

1. 2019 June, St. Louis, MO, Association of Public Health Laboratories Meeting
 - a. Detection and characterization of a 2009 H1N1 human pandemic virus isolated from a human following exposure to influenza virus infected swine. Peter Cook, Rebecca Kondor, Thomas Stark, Natosha Zanders, Joyce Jones, Jeffrey Benfer, Samantha Scott, Alicia Janas-Martindale, John Barnes, Stephen Lindstrom, Lenee Blanton, John Schiltz, David Wentworth, Todd Davis
2. 2019 September, St. Paul, MN, Allen D. Leman Swine Conference
3. 2019 October, Providence, RI, United States Animal Health Association and American Association of Veterinary Laboratory Diagnosticians Annual Meeting

d) Other:

(Provide website address or link to appropriate information) 3

1. USDA APHIS Swine Surveillance
https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/sa_animal_disease_information/sa_swine_health/ct_swine_health_monitoring_surveillance
2. GenBank deposits: approximately 1700 sequences deposited in GenBank in 2019.
<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	2019 A2LA Accreditation Certification.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 tests	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
National Animal Health Laboratory Approval, and international requests for panels	Domestic 57 PCR, International 2 PCR	<input type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> 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:

Due to recent changes in staff, we are in the application process for the next subject matter expert.