

OIE Reference Laboratory Reports Activities

Activities in 2021

This report has been submitted : 2022-01-19 17:37:22

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Avian influenza
Address of laboratory:	OIE Reference Laboratory for Avian Influenza disease Istituto Zooprofilattico Sperimentale delle Venezie (IZSve) Viale dell'Università 10 - 35020 Legnaro (PD) - Italy
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Name (including Title) of Head of Laboratory (Responsible Official):	Calogero Terregino, Head of the EU/National Reference Laboratory for AI/NDV. Director of the Research and Development Department/acting Director of the Specialized Virology and Experimental Research Unit (IZSve)
Name (including Title and Position) of OIE Reference Expert:	Isabella Monne, DVM PhD, Head of the Viral genomics and transcriptomics Laboratory, Division of Research and Innovation
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		Nationally	Internationally
Haemoagglutination inhibition (HI)	Yes	9678	76
Neuraminidase inhibition	Yes	5	10
C-ELISA (AI-type A)	Yes	14476	60
AGID	Yes	40	0
Direct diagnostic tests		Nationally	Internationally
Virus Isolation	Yes	88	34
RRT/RT-PCR	Yes	22417	4662
Sequencing of HA gene	Yes	381	262
IVPI - Intravenous Pathogenicity Index	Yes	5	7
WGS - Whole Genome Sequencing	Yes	199	315

**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
Control positive antigens	HI serological test	8938/4563 ml	841 ml	3722 ml	38	<input checked="" type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input checked="" type="checkbox"/> Middle East
Control positive sera	HI/AGID serological test	1633/1941ml (the amount provided include stocks produced in 2020)	585 ml	1356 ml	33	<input checked="" type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input checked="" type="checkbox"/> Middle East
Control negative serum	HI serological test	1280/428 ml	91 ml	337 ml	15	<input checked="" type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" 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?

Yes

Name of OIE Member Country seeking assistance	Date (month)	No. samples received for provision of diagnostic support	No. samples received for provision of confirmatory diagnoses
ALBANIA	June	0	4
AUSTRIA	May, February	0	13
BENIN	September	0	11
BULGARIA	May, March	0	23
BURKINA FASO	May	0	53
COTE D'IVOIRE	September	0	12
ESTONIA	September, November	0	4
FINLAND	September, Novembe	0	30
GHANA	August	0	53
GREECE	May	0	10
IRAN	January	0	10
IRELAND	November	0	1
UNITED KINGDOM	January, April, August	0	68
ISRAEL	June	0	22
LATVIA	June	0	5
LITHUANIA	April, May	0	16
MALI	May	0	12
MALTA	April, June, July	0	134
NIGER	March	0	41
NIGERIA	March, September	719	64
NORWAY	February, September	0	5
POLAND	May, November	0	3
ROMANIA	February, March, April, May, June, November	0	191
SENEGAL	January	0	8
SLOVAKIA	January	0	7

SLOVENIA	January	0	5
SPAIN	January	0	6
TOGO	June	0	6

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

Yes

Name of the OIE Member Country receiving a technical consultancy	Purpose	How the advice was provided
IRAN	Use of Specific Pathogen Free (SPF) and Specific antibody-negative (SAN) chicken	Remote assistance (email)
SWEDEN	Opinion on possibility to use a real-time PCR-based pathotyping method in addition to the procedure for performing cleavage-site sequencing	Remote assistance (email)
POLAND	Laboratory testing of poultry from the protection/surveillance zone before movement to slaughterhouse in the frame of the Regulation (EU) 2016/429 (AHL), entering into force on 21/04/2021	Remote assistance (email)
IRELAND	Clarifications on the requirements for testing AI under the new AHL	Remote assistance (email)
GERMANY	Clarifications on sampling procedure after restocking of poultry in a holding following an HPAI outbreak, after the entry into force of Regulation (EU) 2016/429	Remote assistance (email)
MOLDOVA	Clarifications on sampling procedure after restocking of poultry in a holding following an HPAI outbreak, after the entry into force of Regulation (EU) 2016/429	Remote assistance (email)
ROMANIA	Discussion on sampling approaches for surveillance of domestic and wild birds as well as mammals.	Remote assistance (email)

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?

Yes

Title of the study	Duration	Purpose of the study	Partners (Institutions)	OIE Member Countries involved other than your country
HORIZON 2020: DELTA-FLU Dynamics of avian influenza in a changing world	5 years	Study of the key viral, host-related, and environmental factors that determine the dynamics of avian influenza (AI) in poultry and other host species, with the goal of improving prevention and control strategies against this disease)Friedrich- Loeffler- Institut (FLI) (Germany,2) Erasmus Universitair Medisch Centrum Rotterdam (The Netherlands),3) The Secretary of State for Environment, Food and rural Affairs (UK), 4) IZSVE (Italy), Universiteit Gent (Belgium),5) The University of Edinburgh (UK), 6) Linneuniversitetet (Sweden), 7) The University of Hong Kong (People's Rep. of China), 8) Southeast Poultry Research Laboratory (SEPR), U.S. National Poultry Research Center, Agricultural Research Service, U.S. Department of Agriculture (USA), 9) Canadian Food Inspection Agency (CFIA) - Canada (associated partner)	CANADA CHINA (PEOPLE'S REP. OF) GERMANY ITALY THE NETHERLANDS UNITED KINGDOM UNITED STATES OF AMERICA
EFSA - Working Group on Avian Influenza	(for the time needed)	Avian influenza WG meeting - monitoring	IZSVE (Italy), APHA - Animal and Plant Health Agency (UK), Friedrich- Loeffler- Institut (Germany) (see EFSA https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2018.5493)	GERMANY ITALY UNITED KINGDOM
Studies on general avian virology and genetics	5 years	Exchange of scientists and Technicians through short to medium term missions; sharing of knowledge and expertise	IZSVE (Italy); Avian Virology and Immunology service of Sciensano (Belgium)	BELGIUM ITALY
Collaboration in diagnostic and scientific research on host range, interspecies transmission and pathogenicity of influenza viruses	5 years	Training of research personnel; sharing of viruses, reagents, facilities and expertise	IZSVE (Italy);Philipps Universität Marburg (Germany)	GERMANY ITALY
Research studies relating to zoonotic viral agents including animal influenza viruses	5 years	Encouraging and promoting cooperation in the following areas: diagnostic and vaccine developments for influenza viruses; training of research personnel; sharing viruses, reagents, facilities and expertise.	IZSve - National Centre for Foreign Animal Disease - "NCFAD" (Canada)	CANADA ITALY
Research studies relating to zoonotic viral agents including animal influenza viruses	(for the time needed)	Research collaborations for diagnostic and scientific purposes with reference to animal and human viral agents, including influenza viruses	The Institute of Veterinary Science (IVS), University of Liverpool, UK	ITALY UNITED KINGDOM

OFFLU Vaccination Composition Meeting	(for the time needed)	The aim of the network is to identify animal influenza viruses with zoonotic potential, and to speed up production of human vaccines against zoonotic influenza, or pandemic viruses that have emerged from animals and that could have negatively impact on humans	https://oiebulletin.fr/?panorama=03-3-2020-2_offlu (global network of expertise on animal influenza)	ITALY
ANSES (Agence nationale de sécurité sanitaire de l'alimentation, de l'environnement et du travail - Laboratory of Ploufragan-Plouzané Unit of avian and rabbit virology, immunology and parasitology (VIPAC) (France)	(for the time needed)	Validation of the new equipment (the VETPOD platform) for rapid on-site detection of zoonotic pathogens in industrial food and animal production chains.	Activity enclosed in the frame of the VIVALDI Project (EU Project VIVALDI number 773422).	FRANCE ITALY

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?

Yes

If the answer is yes, please provide details of the data collected:
<p>National surveillance programmes for avian influenza ° National/regional surveillance programmes following the European Commission's technical advice with reference to circulation of avian influenza viruses in the domestic reservoir. In addition, the RL supported a specific regional surveillance programme targeting areas of high sampling intensity and at a high risk of infection. ° Active surveillance programmes for avian influenza virus infection in wild birds and analysis of avian fecal samples from the environment, in collaboration with the Italian National Institute for Environmental Protection and Research (ISPRA).° Regional passive surveillance programmes in wild birds. International surveillance for avian influenza in poultry and wild birds ° Through the Mattermost IZSve-EURL platform (see box n° 12) communication, sharing and publishing of data and news to keep scientific community updated about the EURL activities for AI and ND. Provision of epidemiological support to design and analyse results from surveillance programmes implemented in EU member states. https://www.izsvenezie.com/reference-laboratories/avian-influenza-newcastle-disease/ ° Sample diagnostic and epidemiologic metadata accompanied by virus genetic data from Western African countries.</p>

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

Yes

If the answer is yes, please provide details of the data collected:

° National Information Systems: regular reporting of epidemiological data to the Ministry of Health and EU Commission. ° EU Commission, EFSA, ECD: providing technical and scientific expertise with regard to the phenotypic and genotypic characterization of influenza viruses; contributing to the official epidemiological reports on avian influenza in Europe. ° OFFLU VCM network: the aim of the network is to identify animal influenza viruses with zoonotic potential, and to speed up production of human vaccines against zoonotic influenza, or pandemic viruses that have emerged from animals and that could have negatively impact on humans. The RL generated and provided HA sequences from 59 AI viruses of the H5 and H9 subtypes. ° Reporting results of molecular, epidemiological and diagnostic analyses to the EU NRLs by email and/or through Mattermost, a open source messaging platform that enables secure team collaboration and enhances cooperation between veterinary/public health laboratories and scientists from the European Union (EU). ° Reporting results of molecular, epidemiological and diagnostic analyses to Western African countries by email and teleconferences for a better understanding of the origin and spread of HPAI in the region.

**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: 11

1. Adlhoch C, Baldinelli F, Fusaro A, Terregino C. Avian influenza, a new threat to public health in Europe? Clin Microbiol Infect. 2021 Nov 8:S1198-743X(21)00632-7. doi: 10.1016/j.cmi.2021.11.005. (Epub ahead of print).

2. European Food, S.A., European Centre for Disease Prevention and Control and European Union Reference Laboratory for, Avian Influenza, Adlhoch, C., Fusaro, A., Gonzales, J.L., Kuiken, T., Marangon, S., Niqueux, É., Staubach, C., Terregino, C., Muñoz Guajardo, I., Lima, E., & Baldinelli, F. (2021). Avian influenza overview December 2020 - February 2021. EFSA Journal, <https://doi.org/10.2903/j.efsa.2021.6497>.

3. European Food, S.A., European Centre for Disease Prevention and Control and European Union Reference Laboratory for, Avian Influenza, Adlhoch, C., Fusaro, A., Gonzales, J.L., Kuiken, T., Marangon, S., Niqueux, É., Staubach, C., Terregino, C., Muñoz Guajardo, I., Lima, E., & Baldinelli, F. (2021). Avian influenza overview February - May 2021. EFSA Journal

4. European Food, S.A., European Centre for Disease Prevention and Control and European Union Reference Laboratory for, Avian Influenza, Adlhoch, C., Fusaro, A., Gonzales, J.L., Kuiken, T., Marangon, S., Niqueux, É., Staubach, C., Terregino, C., Muñoz Guajardo, I., Lima, E., & Baldinelli, F. (2021). Avian influenza overview May - September 2021. EFSA Journal

5. Fatou T. Lo1, Bianca Zecchin1, Alpha A. Diallo, Racky O. Ba, Luca Tassoni, Aida Diop, Moussa Diouf, Mayékor Diouf, Yacine N. Samb, Alice Fusaro, Ambra Pastori, Federica Gobbo, Francesca Ellero, Mariame Diop, Modou M. Lo, Mame N. Diouf, Mathioro Fall, Amadou A. Ndiaye, Adjé M. Gaye, Médoune Badiane, Mbargou Lo, Babacor N. Youm, Ibrahima Ndao, Marius Niaga, Calogero Terregino, Boly Diop, Youssou Ndiaye, Angelique Angot, Ismaila Seck, Mamadou Niang, Baba Soumare, Isabella Monne (2021). Intercontinental spread of Eurasian Highly Pathogenic H5N1 Avian Influenza virus to Senegal (in press)

6. Gobbo, F.; Fornasiero, D.; De Marco, M.A.; Zecchin, B.; Mulatti, P.; Delogu, M.; Terregino, C. (2021). Active Surveillance for Highly Pathogenic Avian Influenza Viruses in Wintering Waterbirds in Northeast Italy, 2020–2021. Microorganisms 2021, 9, 2188. <https://doi.org/10.3390/microorganisms9112188>

7. Laleye, A.T., Bianco, A., Shittu, I., Sulaiman, L., Fusaro, A., Inuwa, B., Oyetunde, J., Zecchin, B., Bakam, J., Pastori, A., Olawuyi, K., Schivo, A., Meseko, C., Vakuru, C., Fortin, A., Monne, I., & Joannis, T. (2021). Genetic characterization of Highly Pathogenic Avian Influenza H5Nx clade 2.3.4.4b reveals independent introductions in Nigeria. Transboundary and Emerging Diseases, n/a

8. Sulaiman, L., Shittu, I., Fusaro, A., Inuwa, B., Zecchin, B., Gado, D., Schivo, A., Bianco, A., Laleye, A., Gobbo, F., Vakuru, C., Joannis, T., Monne, I., & Meseko, C. (2021). Live bird markets in Nigeria: A potential reservoir for H9N2 avian influenza. Viruses 2021, 13(8), 1445; <https://doi.org/10.3390/v13081445>

9. Twabela, A.T., Nguyen, L.T., Masumu, J., Mpoyo, P., Mpiana, S., Sumbu, J., Okamatsu, M., Matsuno, K., Isoda, N., Zecchin, B., Monne, I., & Sakoda, Y. (2021). A New Variant Among Newcastle Disease Viruses Isolated in the Democratic Republic of the Congo in 2018 and 2019. Viruses, 13, 10.3390/v13020151.

10. Zecchin B, Goujgoulova G, Monne I, Salviato A, Schivo A, Slavcheva I, Pastori A, Brown IH, Lewis NS, Terregino C, Fusaro A. Evolutionary Dynamics of H5 Highly Pathogenic Avian Influenza Viruses (Clade 2.3.4.4B) Circulating in Bulgaria in 2019-2021. *Viruses*. 2021 Oct 16;13(10):2086. doi: 10.3390/v13102086.

11. West J, Röder J, Matrosovich T, Beicht J, Baumann J, Mounogou Kouassi N, Doedt J, Bovin N, Zamperin G, Gastaldelli M, Salviato A, Bonfante F, Kosakovsky Pond S, Herfst S, Fouchier R, Wilhelm J, Klenk HD, Matrosovich M. (2021). Characterization of changes in the hemagglutinin that accompanied the emergence of H3N2/1968 pandemic influenza viruses. *PLoS Pathog*. 2021 Sep 23;17(9):e1009566. doi: 10.1371/journal.ppat.1009566. PMID: 34555124; PMCID: PMC8491938.

b) International conferences: 5

EURL team at IZSVE

Presentations from the 27th Annual Meeting of the National Reference Laboratories for Avian Influenza and Newcastle Disease of European Union Member States

<https://www.izsvenezie.com/reference-laboratories/avian-influenza-newcastle-disease/workshops/>

Fusaro, A., Terregino C.

Presentations from the PAFF Animal Health and Welfare committee meetings

https://ec.europa.eu/food/horizontal-topics/committees/paff-committees/animal-health-and-welfare/presentations_en#20210617

Fusaro, A. "Transcontinental spread of HPAI H5N1 virus into Senegal, January 2021". MEEGID XV - 15th International Conference on Molecular Epidemiology and Evolutionary Genetics of Infectious Diseases (2-5 November 2021). Recorded content is available on-demand until 7 May 2022 on Elsevier web site

<https://www.elsevier.com/events/conferences/meegid>

<https://meegid-elsevier.web.indrina.com/sign-in>

Zamperin, G. "The interplay between avian influenza viruses and their hosts: early transcriptome response of galliformes infected with H7 strains showing different pathogenic potential".

MEEGID XV - 15th International Conference on Molecular Epidemiology and Evolutionary Genetics of Infectious Diseases (2-5 November 2021). Recorded content is available on-demand until 7 May 2022 on Elsevier web site

<https://www.elsevier.com/events/conferences/meegid>

<https://meegid-elsevier.web.indrina.com/sign-in>

Zecchin, B. "First introduction of Eurasian HPAI H5N1 virus in Senegal in 2021". *Epidemics* 8 - 8th International Conference on Infectious Disease (30/11-03/12/2021). Recorded content is available on-demand until 30 June 2022 on Elsevier web site

<https://www.elsevier.com/events/conferences/international-conference-on-infectious-disease-dynamics>

c) National conferences: 1

Updates on avian Influenza and Newcastle Disease from the National Reference Centre (October 2021)

<https://www.izsvenezie.it/documenti/formazione/corsi-convegni/2021/2021-10-26-aggiornamenti-influenza-aviaria/programma.pdf>

<https://www.izsvenezie.it/formazione/corsi-e-convegni/archivio-corsi-e-convegni/>

d) Other:

(Provide website address or link to appropriate information) 9

IZSVE website:

- OIE & FAO activities

<https://www.izsvenezie.com/reference-laboratories/avian-influenza-newcastle-disease/oie-fao-activities/>

- Avian influenza in Europe update

<https://www.izsvenezie.com/reference-laboratories/avian-influenza-newcastle-disease/europe-update/>

- European Union Reference Laboratory (EURL) for Avian Influenza and Newcastle Disease

<http://www.izsvenezie.com/reference-laboratories/avian-influenza-and-newcastle-disease/>

- EVA-GLOBAL Biobank

<https://www.izsvenezie.com/izsve-veterinary-biobank-and-the-oie-collaborating-centre-for-veterinary-biological-biobank/>

<https://www.european-virus-archive.com/>

Other web sites:

DELTA-FLU Dynamics of avian influenza in a changing world

<https://delta-flu.fli.de/de/dynamics-of-avian-influenza-in-a-changing-world/>

EFSA - Avian influenza

<https://www.efsa.europa.eu/en/topics/topic/avian-influenza>

WHO - Global Influenza Surveillance and Response System (GISRS)

<https://www.who.int/initiatives/global-influenza-surveillance-and-response-system>

OIE -FAO OFFLU - Network of expertise on animal influenza

https://www.oie.int/fileadmin/vademecum/eng/sctn_offlu.html

Global Collaboration on H5N8 and Related Influenza Viruses

<https://www.gisaid.org/collaborations/global-collaboration-on-h5n8/>**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?

Yes

a) Technical visits: 0

b) Seminars: 100

c) Hands-on training courses: 1

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
b	26 EU countries and 14 non EU countries (detailed information available at IZSVe)	100
c	Nigeria	1

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	A_20_certificato ISO 17025.pdf
ISO 17043	B_certificato-ISO-17043-aqua.pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Detection of antibodies to type A influenza virus by agar gel immunodiffusion assay (AGID)	ACCREDIA - Italian Accreditation System
Detection of subtype-specific antibodies to Avian influenza virus by haemagglutination inhibition test	ACCREDIA - Italian Accreditation System
Avian Influenza Virus Antibodies serological enzyme-linked immunosorbent assay (ELISA)	ACCREDIA - Italian Accreditation System
Isolation and characterization of Avian influenza viruses using SPF embryonated chicken eggs and haemagglutination inhibition test	ACCREDIA - Italian Accreditation System
Detection of type A avian influenza virus by real time RT-PCR	ACCREDIA - Italian Accreditation System
Detection of Eurasian H5 avian influenza virus by one-step RT-PCR	ACCREDIA - Italian Accreditation System
Eurasian H5 avian influenza virus sequence analysis	ACCREDIA - Italian Accreditation System
Detection of Eurasian H7 avian influenza virus by one-step RT-PCR	ACCREDIA - Italian Accreditation System
Eurasian H7 avian influenza virus sequence analysis	ACCREDIA - Italian Accreditation System
Detection of Eurasian H5 avian influenza virus by real time RT-PCR	ACCREDIA - Italian Accreditation System
Detection of Eurasian H7 avian influenza virus by real time RT-PCR	ACCREDIA - Italian Accreditation System
Proficiency testing provider	ACCREDIA - Italian Accreditation System

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?

No

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?

Yes

Purpose of the proficiency tests: ¹	Role of your Reference Laboratory (organiser/participant)	No. participants	Participating OIE Ref. Labs/ organising OIE Ref. Lab.
European Proficiency Test on Avian Influenza and Newcastle disease	Organiser	40 (26 from EU and 14 from non EU countries)	<ul style="list-style-type: none"> • Friedrich Loeffler Institute Federal Research Institute for Animal Health Institute of Diagnostic Virology (Germany); • NRL for Avian Influenza and Newcastle Disease Federal State-Financed Institution "Federal Centre for Animal Health" (FGBI "ARRIAH") (Russia) • Animal and Plant Health Agency Weybridge (UK) (detailed Information available at IZSVe)
OFFLU Proficiency Test on AI. Molecular test	Participant	Information available from organiser (OFFLU consortium)	Australian Centre for Disease Preparedness CSIRO 5 Portarlington Road Private Bag 24 (Ryrie Street) Geelong 3220, Victoria AUSTRALIA

¹ validation of a diagnostic protocol: specify the test; quality control of vaccines: specify the vaccine type, etc.

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?

Yes

Title of the project or contract	Scope	Name(s) of relevant OIE Reference Laboratories
OFFLU VCM Consultation on the Composition of Influenza Virus Vaccines for the Northern Hemisphere	Antigenic and genetic characteristics of zoonotic influenza viruses and candidate vaccine viruses developed for potential use in human vaccines	1) EU Reference Laboratory, the Animal and Plant Health Agency (APHA) Surrey, UK; 2) National Avian Influenza Reference Laboratory Animal Influenza Laboratory of the Ministry of Agriculture, Harbin People's Rep. of China; 3) Hokkaido University Research Center for Zoonosis Control, Sapporo, Japan; 4) Indian Council of Agricultural Research (ICAR) National Institute of High Security Animal Diseases (NIHSAD), Bhopal, India.
European Food Safety Authority (EFSA)	EFSA Panel on Animal Health and Welfare (AHAW) - WG on Avian influenza	1) Friedrich- Loeffler- Institut (FLI) (Germany) See also https://www.efsa.europa.eu/en/topics/topic/avian-influenza
HORIZON 2020: DELTAFLU Dynamics of avian influenza in a changing world	Study of the key viral, host-related, and environmental factors that determine the dynamics of avian influenza (AI) in poultry and other host species, with the goal of improving prevention and control strategies against this disease	Friedrich- Loeffler- Institut (FLI) (Germany)

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 Proficiency Test for Avian Influenza and Newcastle Disease (organiser)	20	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
VLADIA 232. Proficiency Test on Avian Influenza. Serological test (Participant)	Information available from organiser (OFFLU consortium)	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" 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?

Yes

Kind of consultancy	Location	Subject (facultative)
Webinar: one expert participated as invited speaker with the contribution titled "Organisation of activities of Reference Laboratories in EU countries".	Legnaro, Padova (Italy)	Webinar "The Role of Veterinary Reference Laboratories, and Guidelines in Veterinary Education" held on 13th May 2021, organised by OIE - EEC Eurasian Economic Commission

25. Additional comments regarding your report: